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General

			VHF	UHF
Receiver range(MHz)	DJ-G5T	L-band	108.000~173.995 (AM FM)	420.000~479.995 (FM)
			130.000~173.995 (FM)	
	DJ-G5E	R-band		
Transmitter range(MHz)			144.000~145.995	430.000~439.995
	DJ-G5T		144.000~147.995	438.000~449.995
	DJ-G5E		144.000~145.995	430.000~439.995
Modulation			F2E.,F3E(FM)	
Antenna impedance			50 ohm	
Operating temperature range			-10 ~ +60°C	
Supply voltage (rated voltage)	External (V)		4.5~16.0(13.8)	
	Ni-Cd(V)		4.5~16.0(4.8)	
Current (regulated supply voltage)	Tx Hi: 13.8VDC(external)		approx. 1.4A	approx. 1.5A
	Tx Hi: 9.6VDC(Ni-Cd)		approx. 1.4A	approx. 1.5A
	Tx Hi: 7.2VDC(Ni-Cd)		approx. 1.4A	approx. 1.5A
	Tx Hi: 4.8VDC(Ni-Cd)		approx. 1.0A	approx. 1.2A
	TxMid: 4.8VDC(Ni-Cd)		approx. 0.8A	
	TxLo: 4.8VDC(Ni-Cd)		approx. 0.5A	
	Rxsquelched(twinband)		approx. 85mA	
	Rxsquelched(monoband)		approx. 50mA	
	Rx Battery-Save On (800/200 twin band)		approx. 25mA	
Ground			Negative ground	
Microphone impedance			2k ohm	
Dimensions without projection (with projections)			W57(63) x H138(155) x D27.5(31.5)	
Weight (Ant. belt-clip, strap, and Ni-Cd EBP-33N inclusive)			approx. 350g	

Transmitter

Power output (regulated supply voltage)	Hi: 13.8VDC(external)		approx. 5W	
	Hi: 9.6VDC(Ni-Cd)		approx. 4.5W	
	Hi: 7.2VDC(Ni-Cd)		approx. 3.5w	approx. 3W
	Hi: 4.8VDC(Ni-Cd)		approx. 1.5W	approx. 1 W
Modulation	Variable reactance			
Maximum deviation	+/-5kHz			
Spurious emission	notmorethan-60dB			

Receiver

System			Double-conversion superheterodyne		
First I.F.			38.9MHz	45.1 MHz	
Second I.F.			455kHz		
Sensitivity	DJ-G5T	L-band: 144.000~147.995MHz	better than -16dBu	better than -15dBu	
		R-band: 438.000~449.995MHz			
		L-band: 438.000~449.995MHz	better than -12dBu		
		R-band: 144.000~147.995MHz			
	DJ-G5E	L-band: 144.000~145.995MHz	better than -16dBu	better than -15dBu	
		R-band: 430.000~439.995MHz			
			better than-12dBu		
Squelch sensitivity			better than-20dBu (0.1uV)		
Selectivity (-6dB/-60dB)			more than 12kHz / less than 30kHz		
A.F.output(@10% distortion)			100mW(8ohm load)		

CIRCUIT DESCRIPTION

1) Receiver System

The receiver system is the double-conversion superheterodyne. In L band the first IF is 38.9MHz and second IF is 455kHz, and in R band the first IF is 45.1MHz and second IF is 455kHz.

1 Front End

1-1 108.00MHz~ 173.995MHz (144M Band Main)

The receiving signal is passed through the low-pass filter (L90, L91, L92, C220, C229, C230, C231, C235), and amplified in RF amplifier (Q77), then led to the resonant circuit (L85, L86, varicap D68, D69). The signal is amplified in RF amplifier Q75, and passed through the resonant circuit (L81, L82 varicap D66 and D67), then converted into the frequency of 38.9MHz in the mixer Q79.

Two resonant circuits consisting of L85, L86, varicap D68, D69, L81, L82, varicap D66, D67, are controlled by the trucking voltage to obtain the best condition to the receiving frequency.

The local signal from VVCO OUT is passed through the buffer Q79, and fed to the base of the mixer Q76. The sum of the displayed frequency and IF frequency is employed.

1-2 420.00MHz~51 1.995MHz: (430M Band Sub)

The receiving signal is passed through the band-pass filter (C59, C60, C61, C66, C67, C68, L57, L58, L53, L54), RF amplifier (Q62, Q72), band switch (D63), and high-pass filter (C175, C176, C186, C187, L77, L78), and converted into the frequency of 38.9MHz in mixer (Q74).

The local signal is passed through the buffer (Q70), and the difference frequency between IF frequency and the displayed frequency is fed to the base of the mixer (Q74).

1-3 130.00MHz~173.995MHz (144M Band Sub)

The receiving signal is passed through the low-pass filter (L90, L91, L92, C220, C229, C230, C231 and C235), and RF amplifier (Q68), low-pass filter (C145, C146, C153 and C154), then converted into the frequency of 45.1MHz in the mixer (Q67).

The local signal is passed through the buffer (Q69), then the sum of displayed frequency and IF frequency is fed to the base of the mixer (Q67).

1-4 420.00MHz~51 1.995MHz (433M Band Main)

The receiving signal is passed through the band-pass filter (C59, C60, C61, C66, C67, C68, L57, L58, L53, L54), RF amplifier (Q62, Q72) and the band-pass filter (FL51), and amplified in RF amplifier (Q63), then converted into the frequency of 45.1MHz.

The band-pass filter (FL51) is the helical filter to obtain the band width characteristics.

The local signal from UVCO OUT is passed through the diode switch (D58), buffer (Q64), then the difference frequency between the displayed and IF is fed to the base of the mixer (Q61).

2 IF

2-1 L Band

The sum/difference between the receiving signal and local signal is made in each mixer. The crystal filter (XF53) selects the difference of 38.9MHz and eliminates unwanted signal, then it is amplified in the first IF amplifier (Q78).

2-2 R Band

The sum/difference between the receiving signal and local signal is made in each mixer. The crystal filter (XF51) selects the difference of 45.1 MHz and eliminates unwanted signal, then it is amplified in the first IF amplifier (Q60).

3 Demodulation

3-1 L Band

After amplified in the first IF amplifier (Q78), the signal is fed to the demodulation IC (IC302) Pin24. The first IF signal outputted to Pin24 (38.9MHz) is mixed in the mixer of IC302 with the local signal of 38.455MHz which is oscillated in the oscillation circuit of IC302 and the crystal oscillator (X303), then converted into the second IF signal of 455kHz. The second IF is supplied from the IC302 Pin3. After eliminating unwanted signal by the ceramic filter (FL302), the signal is applied to Pin5 and Pin7.

As for the FM demodulation, the second IF signal applied to Pin7 is demodulated in limiter amplifier and quadrature detection circuit of IC302 when IC302 Pin14 is open, and it is outputted from Pin12 as the audio signal.

As for the AM demodulation, the second IF signal applied to Pin5 is demodulated in AM amplifier and AM detection circuits of IC302 when the voltage of IC302 Pin14 is low, and it is outputted from Pin13 as the audio signal.

3-2 R Band

After amplified in the first IF amplifier (Q60), the signal is applied to the demodulation IC301, Pin16. It is mixed in the mixer of IC301 with the local signal of 45.555MHz which is oscillated in the oscillation circuit and the crystal oscillator (X301) of IC301, then converted into the second IF signal of 455kHz. The second IF is outputted from IC301 Pin3, and applied to Pin5 and Pin7 after eliminating unwanted signal by the ceramic filter (FL301).

4 Audio Circuit

4-1 FM (L band)

The audio signal supplied from IC302 is pre-emphasized white transmitting. So the audio frequency should be compensated in the de-emphasis circuit (R366, C363), then the signal is passed through FM/AM selection switch (IC303). The frequency of 300Hz or below is cut in the audio high-pass filter circuit (Q313), and it is applied to the electronic volume (IC304) Pin1. The signal is passed through the buffer (IC306), and adjusted the volume, then led to the audio power amplifier (IC307) to drive the speaker.

4-2 AM (L band)

When AM mode is selected, the switching transistor (Q312) is turned ON, and IC302 Pin14 becomes low, then AM demodulation circuit of IC302 is activated.

The audio signal provided from IC302 Pin14 is passed through the de-emphasis circuit (R362, C360), and FM/AM selection switch (IC303), then led to audio high-pass filter circuit (Q313), electronic volume (IC304), buffer (IC306) and the audio power amplifier (IC307) to drive the speaker.

Note:

The FM detection circuit in IC301 (TK10930) is operating even while AM receiving. (The squelch circuit is activated by FM detection output.) So the FM audio is not outputted by FM/AM selection switch (IC303).

4-3 FM (R band)

The audio signal supplied by IC301 Pin9 is compensated the audio frequency characteristics in de-emphasis circuit (R330, C327), and the signal is passed through the audio high-pass filter (Q306), then applied to the electronic volume (IC304) Pin20. It is passed through the buffer (IC305), and led to the audio power amplifier (IC307) to drive the speaker.

5 Squelch Circuit

5-1 L Band

A part of the audio signal of IC302 Pin12 is selected and amplified by the noise amplifiers in R351, R352, R350, R353, C351, C352, C353, and IC302. Then it is supplied from IC302 Pin20 to be amplified again in the noise amplifier (Q309). The amplified noise factor is rectified in D302, adjusted the level in VR303, and applied to CPU (IC508) Pin96, then converted to the digital signal.

5-2 R Band

A part of the audio signal of IC301 Ping is selected and amplified by the noise amplifiers in R316, R317, R318, R319, C318, C319, C320, and IC301. Then it is supplied from IC301 Pin11 to be amplified again in the noise amplifier (Q303). The amplified noise factor is rectified in D301, adjusted the level in VR301, and applied to CPU (IC508) Pin97, then converted to the digital signal.

6 Attenuator Circuit

6-1 VHF Band

When the ATT key is pressed, "L" is applied from shift resistor (IC52) Pin14, and D71 is turned ON, then the Attenuator circuit (Q56, R151, C194, R160) is activated.

The receiving signal passed through the low-pass filter is attenuated approximately 15dB by the attenuator to decrease the interference of the adjacent channel, etc.

6-2 UHF Band

When the ATT key is pressed, "L" is applied from shift resistor (IC52) Pin13, and D55 is turned ON, then the Attenuator circuit (Q56, R73, C90, R80) is activated.

The receiving signal passed through the low-pass filter is attenuated approximately 15dB by the attenuator to decrease the interference of the adjacent channel, etc.

2) Transmitter System

1 Demodulation Circuit

The voice is converted into the electric signal by the internal or external microphone, then it is applied to the mic amplifier (IC310). This IC310 has two operational amplifiers. The pre-emphasis and IDC consist of Pin1, 2 and 3, and the splutter filter consists of Pin5, 6 and 7.

The output from the microphone amplifier is passed through variable resistors VR305 and VR306 for maximum deviation adjustment to cathode of varicap diode of the VCO, controlling the VCO frequency and so producing a frequency-modulation.

2 Power Amplifier

2-1

The transmitting signal oscillated in VVCO is amplified in pre-drive amplifier (Q81) and drive amplifier (Q80), then fed to the power module (IC54). The transmitting signal amplified in IC54 is supplied to the antenna after attenuated the harmonics enough in the antenna switch (D72) and the Low-pass filter (L90, L91, L92, C220, C229, C230, C231, C235).

2-2

The transmitting signal oscillated in UVCO is amplified in pre-drive amplifier (Q54) and drive amplifier (Q53), then fed to the power module (IC51). The transmitting signal amplified in IC51 is supplied to the antenna after attenuated the harmonies enough in the antenna switch (D52), and the bandpass filter (L57, L58, L53, L54, C59, C60, C61, C66, C67, C68).

3 APC Circuit

3-1 VHF Band

A part of transmitting voltage from low-pass filter is detected by D74, and converted into the DC voltage. The converted detection voltage is differential amplified, and the output voltage controls the bias voltage of power module (IC54) Pin2 to fix the transmitting power.

3-2 UHF Band

A part of transmitting voltage from low-pass filter is detected by D56, and converted into the DC voltage. The converted detection voltage is differential amplified, and the output power controls the bias voltage of power module (IC51) Pin2 to fix the transmitting power.

3) PLL Synthesizer Circuit

1 PLL

The data is sent to the PLL IC (IC53) Pin2 and the clock is sent to Pin3 from CPU (IC508), then the ratio of the division is decided each in L band and R band. Each VCO oscillating signal is amplified in the buffer (Q73: L band, Q66: R band), and the signal in L band is applied to Pin15, then the signal in R band is applied to Pin6. The programmable divider of IC53 is determined by frequency data, and it divides $(1/N)$ input signal of IC53. Resulting signal will be 5kHz or 6.25kHz.

2 Reference frequency division

The reference frequency of 5kHz or 6.25kHz according to the channel step is produced by dividing the reference oscillation 12.8MHz (X51) by 2560 or 2048, the data from CPU (IC508). The channel steps of 5kHz, 10kHz, 15kHz, 20kHz, 25kHz, 30kHz and 50kHz use the reference frequency of 5kHz, and the channel step of 12.5kHz uses the reference frequency of 6.25kHz.

3 Phase comparator

The reference frequency of IC53 is 5kHz or 6.25kHz.

The VCO output frequency divided by N is compared with 5kHz or 6.25kHz in the phase comparator.

4 PLL Loop Filter Circuit

If the phase error should occur in PLL, the charge pump of IC53 Pin13 (L band) and Pin8 (R band) outputs the pulse. The signal is converted into the DC voltage in PLL loop filter, then inputted to the varicap of each VCO unit.

5 VVCO Circuit (VHF Band)

Q705 is turned ON, and the desired frequency is oscillated in the Colpitts oscillator consisting of Q701. The frequency control voltage is applied to the varicap (D702, D703), and the oscillating frequency is changed, then amplified in VCO buffer (Q703), and outputted from the VCO unit.

6 VVCO Circuit (UHF Band)

Q704 is turned ON, and the desired frequency is oscillated in the Colpitts oscillator consisting of Q702. The frequency control voltage is applied to the varicap (D704, D705), and the oscillating frequency is changed, then amplified in VCO buffer (Q703), and outputted from the VCO unit.

7 UVCO Circuit (UHF Band)

Q605 is turned ON, and the desired frequency is oscillated in the Colpitts oscillator consisting of Q601. The frequency control voltage is applied to the varicap (D602, D603), and the oscillating frequency is changed, then amplified in VCO buffer (Q603), and outputted from the VCO unit.

8 UVCO Circuit (VHF Band)

Q604 is turned ON, and the desired frequency is oscillated in the Colpitts oscillator consisting of Q602. The frequency control voltage is applied to the varicap (D604, D605), and the oscillating frequency is changed, then amplified in VCO buffer (Q603), and outputted from the VCO unit.

4) CPU and Peripheral Circuit

1 LCD Display Circuit

The strobe, serial data, and clock are sent to the LCD driver (IC503) Pin 75~77 from CPU (IC508), and the LCD is activated with 1/4 duty and 1/3 bias. The frame frequency is 137Hz.

2 Display Lamp Circuit

The regulated power supply circuit consisting of Q505, Q507, R508, R509 supplies H from CPU (IC508) when LAMP key is pressed. Then it is applied to the base of Q507, and the voltage of 3.5V is outputted from the collector of Q505. It is fed to each LED (D503~D506, D509, D511, D513, D514).

3 Reset and Backup Circuit

When the voltage of approximately 3.0V or more is supplied from the external (DC jack, battery), the reset signal of "H" level is outputted from Reset IC (IC506), and it is fed to CPU (IC508) Pin9, then the CPU is reset. Until the clock (X502) of CPU is stabilized, the reset signal is fed to CPU after it is delayed in C522 and R581.

When the voltage from external is decreased to approximately 3.3V or below, the voltage of Pin18 in CPU is changed from "H" level to "L" level, then the CPU enters into the backup mode.

4 S (signal) Meter Circuit

4-1 L Band

The DC voltage of IC302 Pin16 is low when the signal is weak and high when the signal is strong. This change of DC voltage is adjusted the level at the trim pot (VR304), and led to CPU (IC508) Pin98, then displayed on the LCD as S meter after A/D converting.

4-2 R Band

The DC voltage of IC301 Pin13 is adjusted the level at the trim pot (VR302), and led to CPU (IC508) Pin99, then displayed on the LCD as S meter after A/D converting.

5 Full-duplex Circuit

When the DUP key is pressed, in the receiving side Q317 is turned ON and the audio signal supplied to audio amplifier is decreased. In transmitting side Q510 is turned ON, and the modulation signal is decreased to prevent the howling.

6 X-Band Repeater Circuit

In X-band repeater mode, Q323 is turned OFF, the audio Signal which is opened the squelch is passed through the audio high-pass filter (Q313: L band, Q306: R band), and the signal is applied to the other modulation circuit. Then the radio enters into the transmitting mode.

7 DTMF

7-1 Encoder

The DTMF encoder is built in the CPU (IC508). The DTMF signal output from Pin91 is adjusted its level at VR308, and amplified by the mic amplifier (IC310), then fed to the varicap for modulation of each VCO.

Simultaneously the monitor sound is passed through AF circuit, and it is supplied from the speaker.

7-2 Decoder

A part of the audio signal which is demodulated in IC301, IC302 is fed to the DTMF switch (IC501), then only the selected band audio signal is fed to DTMF IC (IC502) Pin1. The supplied signal is judged whether valid or not by the signal judgement circuit in IC502, and converted into 4-bit code, then supplied to IC508 Pin85.

8 Tone Squelch

8-1 Encoder

The tone signal supplied from Tone IC (IC504) Pin21 (67.0Hz~254.1Hz) is adjusted the level at VR307, and amplified in the tone amplifier (Q322), then applied to the varicap for modulation of each VCO.

8-2 Decoder

A part of the audio signal which is demodulated in IC301, IC302 is fed to the tone switch (IC504), then only the selected band audio signal is fed to tone IC (IC504) Pin1.

When the signal is accord with the programmed tone frequency, "LO" is outputted from IC504 Pin14, and it is fed to CPU (IC508) Pin74, then the squelch is opened.

5) Terminal function of CPU

No.	Name	Pin Name	I/O	Description	H	L	HiZ
1	ANO	+BD	I	Power supply voltage detection	Analog IN		
2	AVSS	GND	/	Analogground			
3	TEST	GND	/	Connect to ground			
4	X2	OPEN		Open when not used			
5	X1	VDD	/	Power supply			
6	VSS	GND	/	Ground			
7	OSC1	OSC1	I	Internal oscillator input			
8	OSC2	OSC2	O	Internal oscillator output			
9	RES	REST	I	CPU reset	At work		
10	NMI	VDD	/				
11	P20	CLK	O	Clock input	Pulse	Normal	
12	P21	DATA	O	Data input	Pulse	Normal	
13	P22	STB1	O	RF4094 strobe	Pulse	Normal	
14	P23	STB2	O	IF4094 strobe	Pulse	Normal	
15	P24	STB3	O	Electronic volume strobe	Pulse	Normal	
16	P25	OPEN	/				
17	P26	+BDSW	O	+BD input ON/OFF	ON	OFF	
18	IRQO	BU	I	Backup signal input	Normal	Backup	
19	P17	RE1	I	Rotary encoder up input	OFF	ON	
20	P16	RE2	I	Rotary encoder down input	OFF	ON	
21	P15	PSW	I	Power switch input	OFF	ON	
22	P14	OPEN					
23	P13	OPEN					
24	TMOFH	BEEP	O	Beep sound output	Pulse	Pulse	Normal
25	TMOFL	1750	O	Tone burst output	Pulse	Pulse	Normal
26	P10	XBR	O	Cross band repeater ON/OFF	Normal	Repeater	
27	VSS	GND	/	Ground			
28	V3	OPEN					
29	V2	OPEN					
30	V1	OPEN					
31	VCC	VDD	/	Power supply terminal			
32	PA3	LBSY	I	LCD driver data input ON/OFF	Permitted	Inhibited	
33	PA2	LCLK	O	LCD driver clock	Normal	Pulse	
34	PA1	LDATA	O	LCD driver serial data	Normal	Pulse	
35	PA0	LSTB	O	LCD driver strobe	Inhibited	Permitted	
36	P50	PT5/PTT	I	PTT input	ON	OFF	
37	P51	MONt	I	Monitor key input	OFF	ON	
38	P52	TBST	I	TX(toneburst)input	OFF	ON	
39	P53	FUNC	I	Function key input	OFF	ON	
40	P54	BP3	I	Band plan (TX/RX expansion)	Expanded	Normal	
41	P55	UHF	I	UHF key input	OFF	ON	
42	P56	VOLU	I	VOL up key input	OFF	ON	
43	P57	SQLD	I	SQL down key input	OFF	ON	
44	P60	SQLU	I	SQL up key input	OFF	ON	
45	P61	SRCH	I	Search key input	OFF	ON	
46	P62	VHF	I	VHF key input	OFF	ON	
47	P63	VOLD	I	VOL down key input	OFF	ON	
48	P64	KIN1	I	Key matrix input1	OFF	ON	
49	P65	KIN2	I	Key matrix input2	OFF	ON	
50	P66	KIN3	I	Key matrix input3	OFF	ON	

No.	Name	Pin Name	I/O	Description	H	L	HiZ
51	P67	KIN4	I	Key matrix input4	OFF	ON	
52	P70	KOT1	O	Key matrix output1	OFF	ON	
53	P71	KOT2	O	Key matrix output2	OFF	ON	
54	P72	KOT3	O	Key matrix output3	OFF	ON	
55	P73	KOT4	O	Key matrix output4	OFF	ON	
56	P74	PRST	O	PLL reset pulse input judgement	Normal	Pulse	
57	P75	SDA	I/O	EEPROM data	PL	SE	Normal
58	P76	SCL	O	EEPROM clock	PL	SE	Normal
59	P77	50SW	O	5V ON/OFF	ON	OFF	
60	P80	OPEN	/				
61	P81	TFD	O	Full duplex ON/OFF when transmitting	Full duplex	Normal	
62	P82	UTBST	O	Right side TX lamp ON/OFF	ON	OFF	
63	P83	VTBST	O	Left side TX lamp ON/OFF	ON	OFF	
64	P84	VTXCV	O	VHF TX circuit for power supply		ON	OFF
65	P85	UTXCV	O	UHF TX circuit for power supply		ON	OFF
66	P86	VBSY	O	VHF RX busy lamp ON/OFF		ON	OFF
67	P87	UBSY	O	UHF RX busy lamp ON/OFF		ON	OFF
68	P90	LAMPC	O	LAMP ON/OFF	ON	OFF	
69	P91	PCNT	O	Vcc ON/OFF	ON	OFF	
70	P92	MUTE	O	Microphone mute	Muted	Normal	
71	P93	RFD	O	Full duplex ON/OFF when receiving	Full duplex	Normal	
72	P94	DSW	O	DTMF band selection	VHF	UHF	
73	P95	TSW	O	Tone band selection	VHF	UHF	
74	P96	TSQD	I	Tone detection signal input	None	Tone	
75	P97	TSTB	O	Tone IC strobe	Pulse	Normal	
76	VCC	VDD	/	Power supply			
77	PD0	AM	O	AM circuit ON/OFF	AM	FM	
78	PD1	AFPC	O	Audio amplifier power supply ON/OFF	ON	OFF	
79	PD2	VAFS	O	VHF AF mute	Muted	ON	
80	PD3	UAFS	O	UHF AF mute	Muted	ON	
81	PD4	OPEN					
82	PD5	IFPC	O	IF power supply ON/OFF	ON	OFF	
83	PD6	VRXC	O	VHF IF circuit power supply	OFF	ON	
84	PD7	URXC	O	UHF IF circuit power supply	OFF	ON	
85	PE0	DSD	I	DTMF 4-bit data	Normal	Pulse	
86	PE1	ACK	O	DTMF clock	Pulse	Normal	
87	PE2	DSTD	I	DTMF detection signal	Signal	None	
88	PE3	DPD	O	DTMF operation ON/OFF	isstopped	Operation	
89	AVCC	AVCC	/	A/D converter power supply			
90	TONEM	TRAC	O	VHF trucking voltage output			
91	TONED	DTON	O	DTMF signal output			Normal
92	VTref	VDD	/	Power supply for DTMF reference level			
93	AVref	AVCC	/	Power supply for A/D reference level			
94	AN7	BP2	I	Band plan2			
95	AN6	BP1	I	Band plan1 (destination)			
96	AN5	VSD	I	VHF SD signal input	No signal	Analog in	
97	AN4	USD	I	UHF SD signal input	No signal	Analog in	
98	AN3	VSMT	I	VHF S meter signal input	Analog in		
99	AN2	USMT	I	UHF S meter signal input	Analog in		
100	AN1	MRC	I	Microphone remote control input	Analog in		

6) Terminal function of 4094

4094 pin	Port Name	Function	Logic	Description	VHF 145 MHz	VHF 433 MHz	UHF 433 MHz	UHF 145 MHz	BS OFF TIME
Q11	UHI	UHF high power control	Active Low	Low power	H	H	H	H	H
Q12	UMID	UHF middle power control	Active Low	UHF middle=H	H	H	H	H	H
Q13	VHI	VHF high power control	Active Low	Low power	H	H	H	H	H
Q14	VMID	VHF middle power control	Active Low	VHF middle=H	H	H	H	H	H
Q15	VATTC	VHF RX attenuater control	Active Low	ATT ON	H/L	H/L	H/L	H/L	H
Q16	UATTC	UHF RX attenuater control	Active Low	ATT ON	H/L	H/L	H/L	H/L	H
Q17	VCO4SW	UHF VCO switch	Active Low		H/L	H/L	L	H	H
Q18	VCO1SW	VHF VCO switch	Active Low		L	H	H/L	H/L	H
Q21									
Q22	USUBC	UHF 145MHz power control	Active Low		H/L	H/L	H	L	H
Q23	UMAINC	UHF 435MHz power control	Active Low		H/L	H/L	L	H	H
Q24									
Q25	VSUBC	VHF 435MHz power control	Active Low		H	L	H/L	H/L	H
Q26	VMAINC	VHF 145MHz power control	Active Low		L	H	H/L	H/L	H
Q27	UPLLC	UHF VCO power control	Active Low		H/L	H/L	L	L	H
Q28	VPLLC	VHF VCO power control	Active Low		L	L	H/L	H/L	H

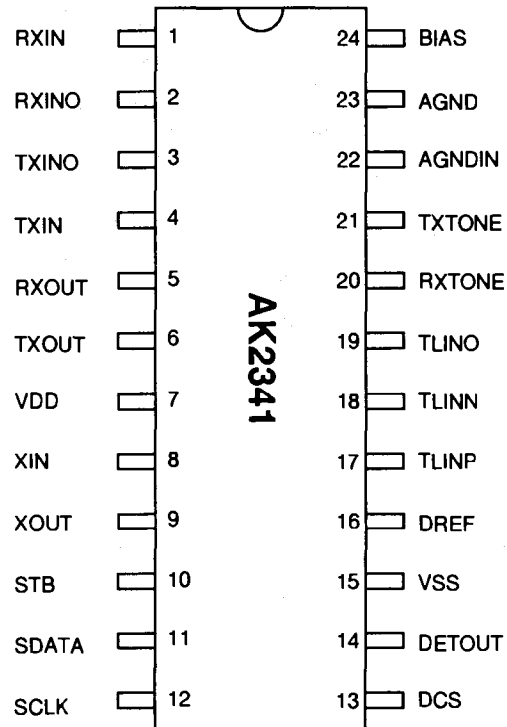
7) Frequency Table

Band	IF Frequency	Display frequency	UP/LOW	Oscillation frequency	Mode
VHF	38.9MHz	108.000~173.995MHz	UP	146.900~212.895MHz	FM/AM
		420.000~511.995MHz	Low	381.100~473.095MHz	FM/AM
UHF	45.1MHz	130.000~173.995MHz	UP	175.100~219.095MHz	FM
		420.000~511.995MHz	Low	374.900~466.895MHz	FM

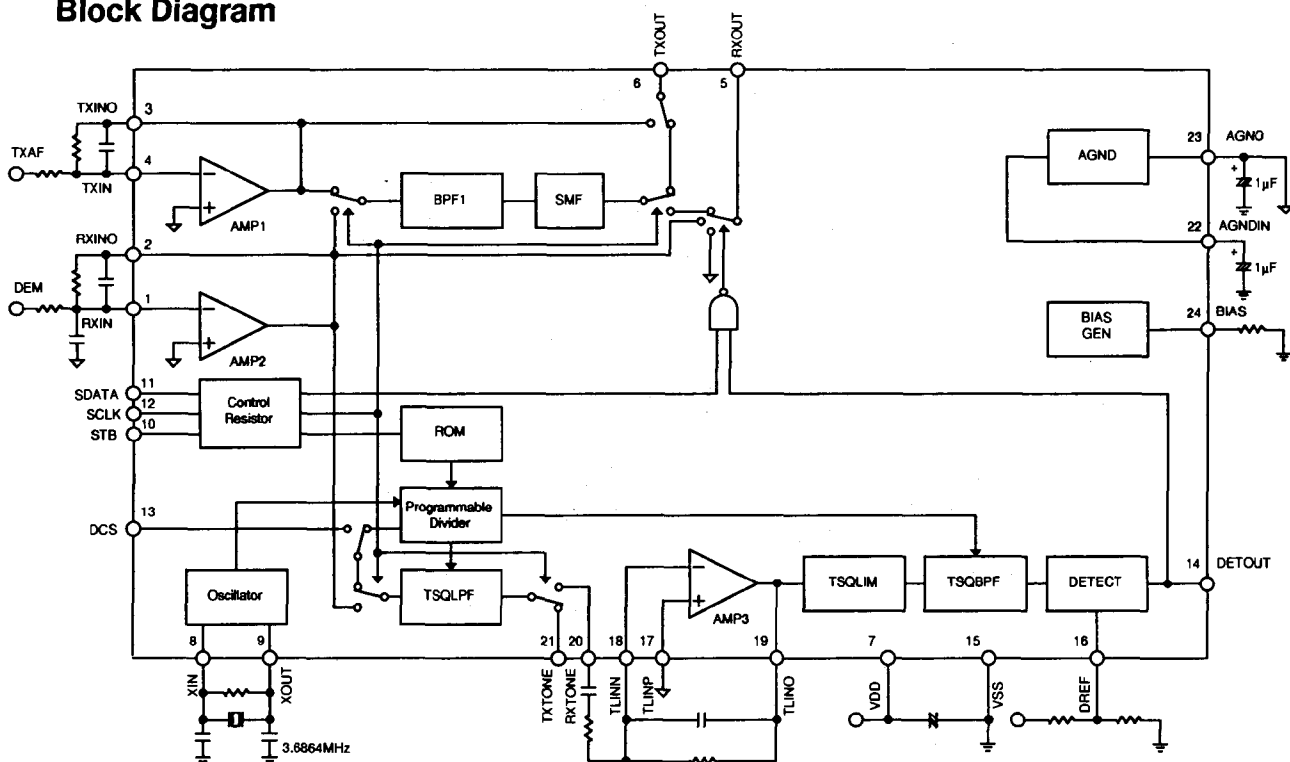
1) AK2341 (XA0239)

CTCSS Encoder/Decoder

Pin No.	Pin Name	IO	Function
1	RXIN	I	RX Signal Input
2	RXINO	O	AMP2 Output
3	TXINO	O	AMP1 Output
4	TXIN	I	TX Audio Input
5	RXOUT	O	RX Audio Output
6	TXOUT	O	TX Audio Output
7	VDD	-	Power Supply (1.8 ~ 5.5V)
8	XIN	I	Crystal Terminal (3.6864MHz)
9	XOUT	O	Crystal Terminal (3.6864MHz)
10	STB	I	Strobe for Serial Data
11	SDATA	I	Serial Data
12	SCLK	I	Serial Clock
13	DCS	I	DCS Input
14	DETOUT	O	Tone Detection Output (Detect: Low)
15	VSS	-	Ground
16	DREF	I	Tone Detection Level Adjust Input
17	TLINP	I	RX Tone Signal Reference Input
18	TLINN	I	RX Tone Signal Input
19	TLINO	O	AMP3 Output
20	RXTONE	O	RX Tone Signal Output
21	TXTONE	O	TX Tone Signal Output
22	AGNDIN	I	Analog Ground Input
23	AGND	O	Analog Ground Output
24	BIAS	I	Bias Input

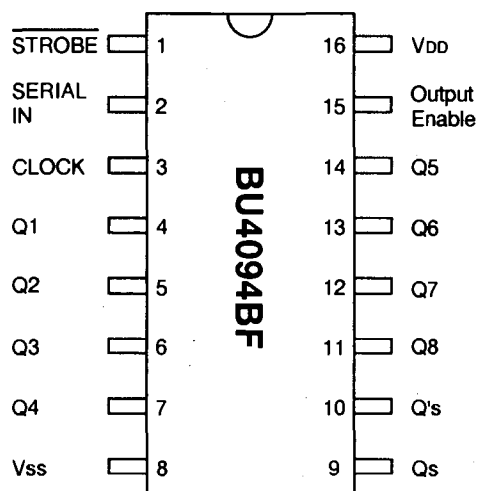


Block Diagram

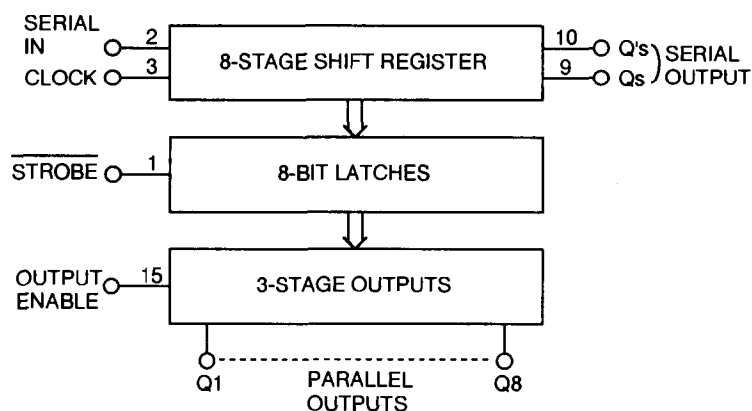


2) BU4094BF (XA0246)

8-Stage Shift Register



Block Diagram



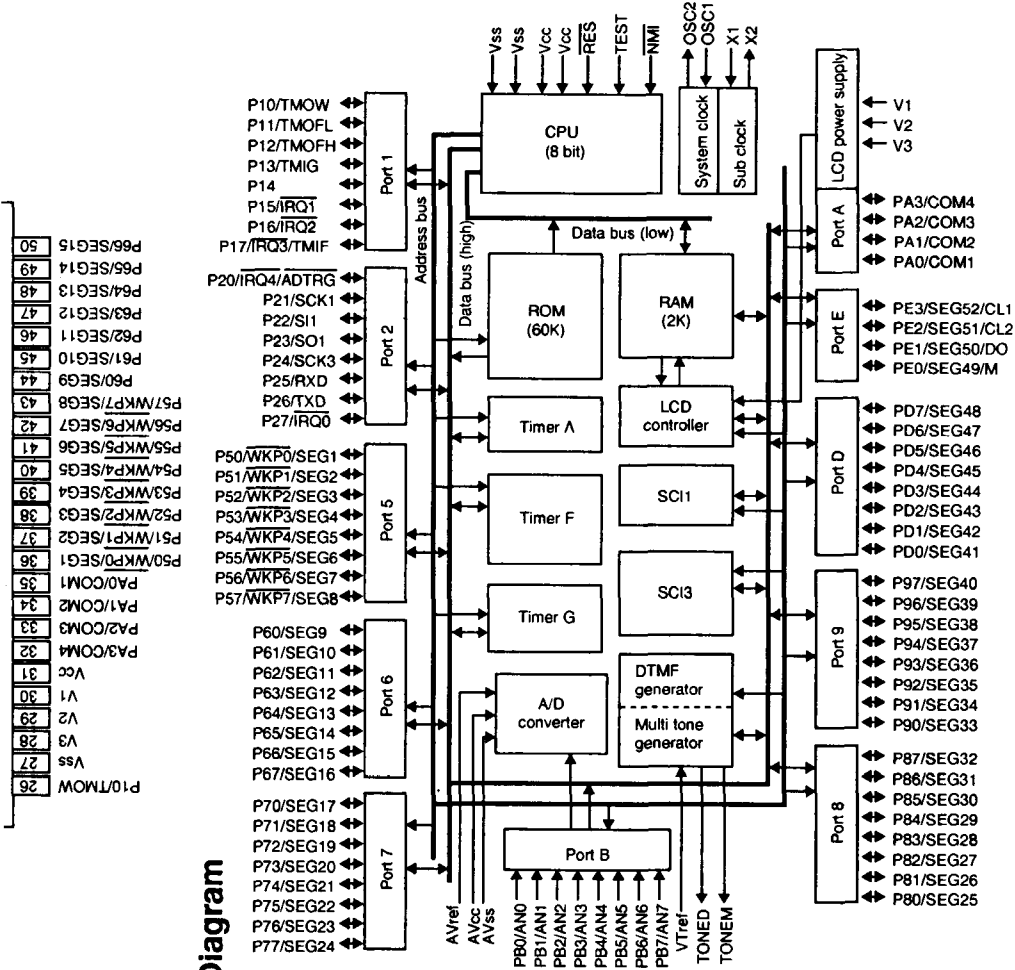
Truth Table

Clock	Output enable	Strobe	Data	Parallel outputs		Serial outputs	
				Q1	Qn	Qs	Q's
	L	X	X	Z	Z	Q7	No Chg.
	L	X	X	Z	Z	No Chg.	Qs
	H	L	X	No Chg.	No Chg.	Q7	No Chg.
	H	H	L	L	Qn-1	Q7	No Chg.
	H	H	H	H	Qn-1	Q7	No Chg.
	H	X	X	No Chg.	No Chg.	No Chg.	Qs

Z=High Impedance
X=Don't Care

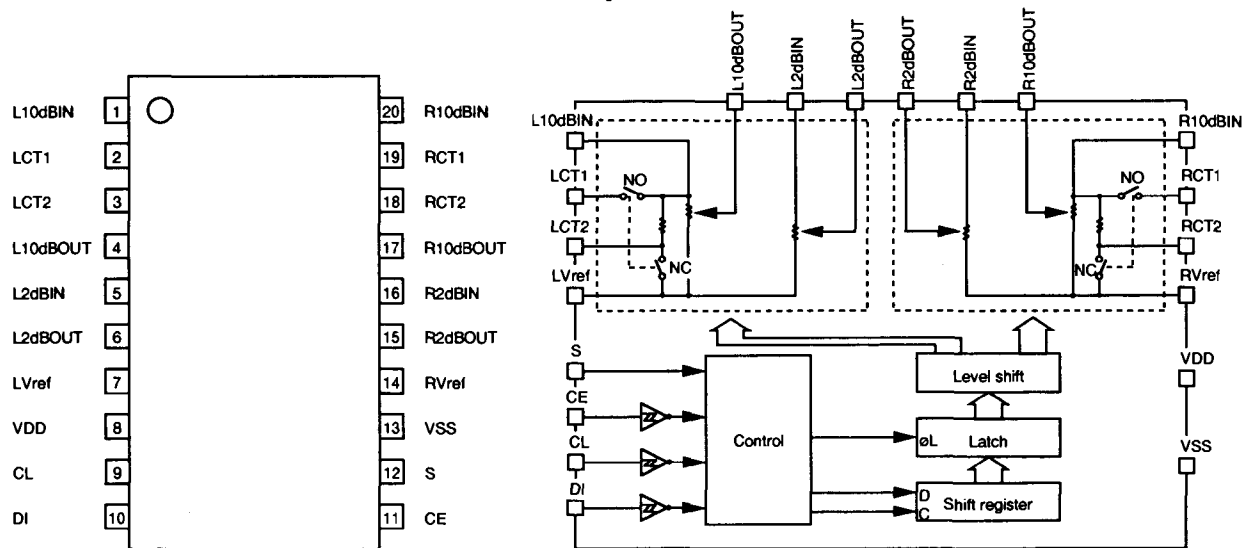
CPU

HD6433877



4) LC75366M (XA0345)

Electric Volume



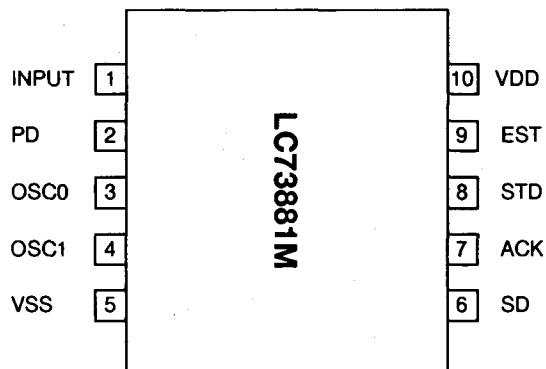
Ta=25°C, Vss=0V

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
THD	THD(1)	VIN=1Vrms, f=1kHz, flat over all, VDD=9V		0.006		%
	THD(2)	VIN=1Vrms, f=20kHz, flat over all, VDD=9V		0.015		%
Cross talk	CT	VIN=1Vrms, f=20kHz, flat over all, Rg=1kΩ		85		dB
Volume min. output	V0 min	VIN=1Vrms, f=20kHz, Volume=∞, L/R Vref~Vss: C=470μF		80		dB
All resistance value	RVOL(1)	10dB step	28.2	47	68.5	kΩ
	RVOL(2)	2B step	12	20	28	kΩ
Output off leak current	I off	L10dBIN, R10dBIN, LCT1 L2dBIN, R2dBIN, RCT1 L10dBOUT, R10dBOUT, LCT2 L2dBOUT, R2dBOUT, RCT2 LVREF, RVref	-10		+10	μA
Input "H" level current	I IH	VI=VDD (CL, CE, DI terminal)			+10	μA
Input "L" level current	I IL	VI=VSS (CL, CE, DI terminal)	-10			μA
Noise output voltage	VN	flat over all (IHF-A), VDD=9V, Rg=1kΩ		2	10	μA
Consumption current	IDD	VDD-VSS=11V			1	mA
Analog ON resistance	R ON	CT1	180	300	420	Ω
		CT2 between Vref	90	150	210	
		0dB, ∞	0.6	1.0	1.4	kΩ
		Others	6.0	10.0	14.0	

5) LC73881M (XA0344) DTMF Receiver

Frequency Table

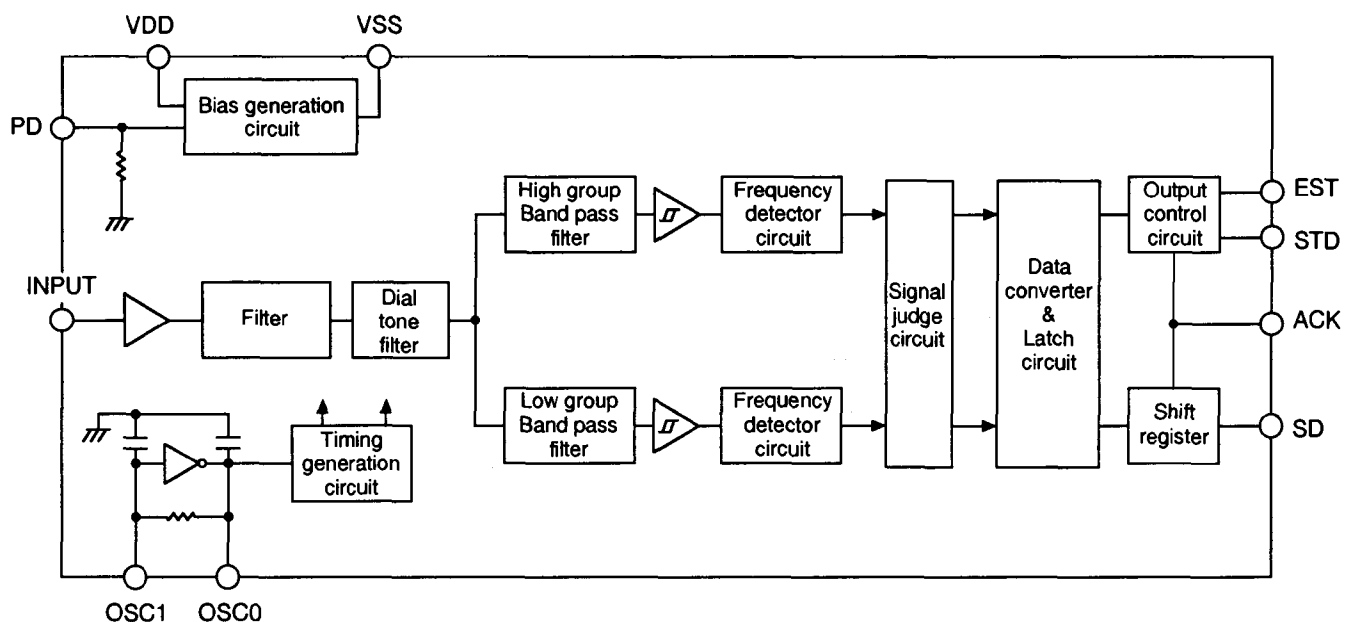
FL	FH	Key	b3	b2	b1	b0
697	1209	1	L	L	L	H
697	1336	2	L	L	H	L
697	1477	3	L	L	H	H
770	1209	4	L	H	L	L
770	1336	5	L	H	L	H
770	1477	6	L	H	H	L
852	1209	7	L	H	H	H
852	1336	8	H	L	L	L
852	1477	9	H	L	L	H
941	1336	0	H	L	H	L
941	1209	*	H	L	H	H
941	1477	#	H	H	L	L
697	1633	A	H	H	L	H
770	1633	B	H	H	H	L
852	1633	C	H	H	H	H
941	1633	D	L	L	L	L



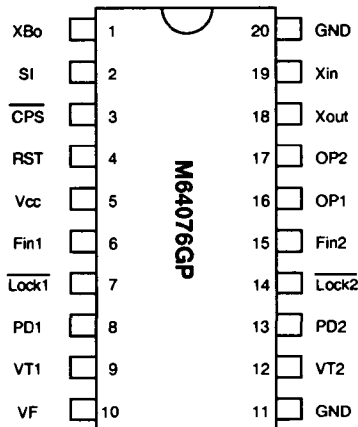
Function Table

No.	Name	I/O	Description
1	INPUT	I	Signal input terminal
2	PD	I	Set to "H" to enter into the standby mode.
3	OSC0	O	Crystal terminal (4.194304MHz)
4	OSC1	I	Crystal terminal (4.194304MHz)
5	VSS		Ground terminal: 0V
6	SD	O	Decoded serial 4-bit data output terminal LSB is supplied first.
7	ACK	I	Data shift terminal for SD
8	STD	O	DTMF signal is existed when STD is "H".
9	EST	O	DTMF signal is existed when EST is "H".
10	VDD		Power Supply: 2.7~5.5V

Block Diagram

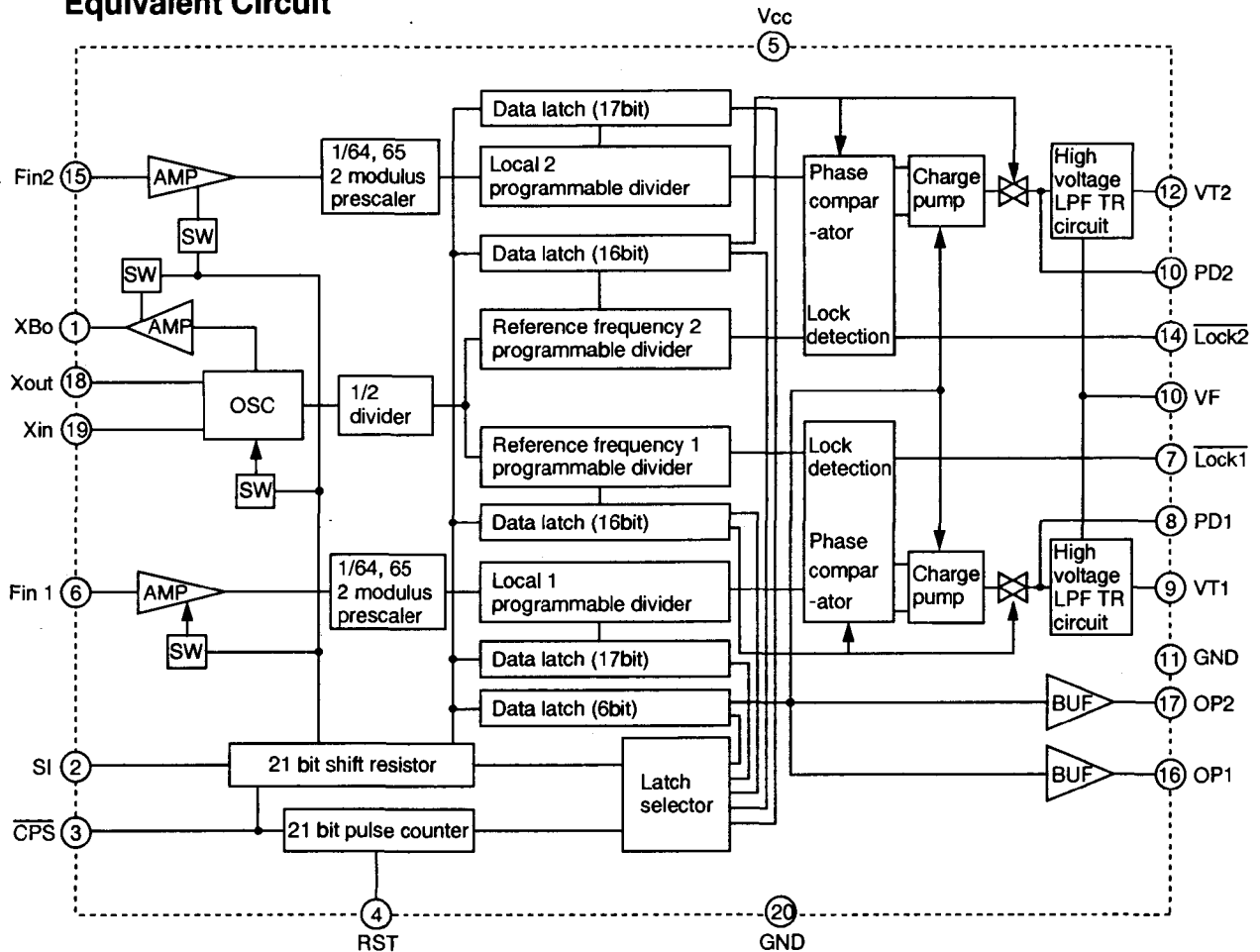


6) M64076GP (XA0352) Dual PLL Synthesizer



Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Power supply voltage	Vcc	Fin=80~520MHz Vin=-10dBm	2.7	-	5.5	V
LPF supply voltage	VF		-	9	12	V
Local oscillator input level	Vin	Fin=80~520MHz Vcc=2.7~5.5V	-20	-	-4	dBm
Local oscillator input frequency	Fin	Vin=-20~-4dBm Vcc=2.7~5.5V	80	-	520	MHz
Xin input level	Vxin	Vcc=2.7~5.5V Fxin=10~25MHz Sine wave	0.4	-	1.4	Vp-p
Xin input frequency	Fxin	Vcc=2.7~5.5V Vxin=0.4~1.4Vp-p	10	-	25	MHz

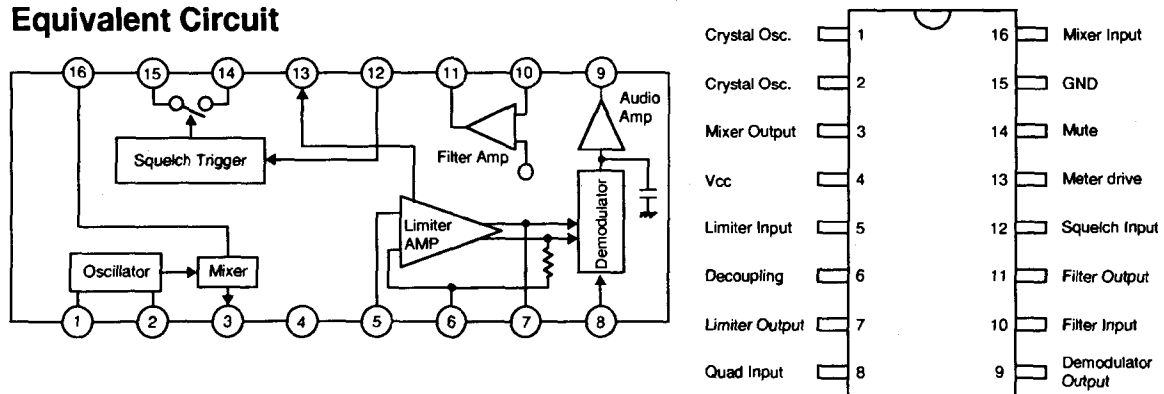
Equivalent Circuit



7) MC3372VM (XA0343)

Low Power FM IF

Equivalent Circuit

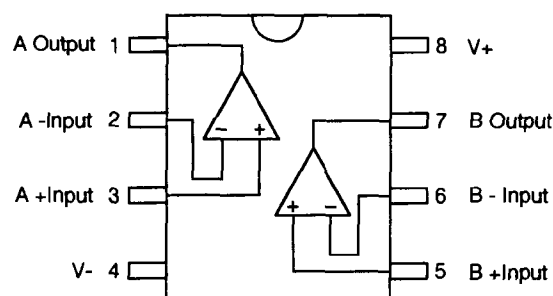


Ta=25°C

Parameter	Pin No.	Symbol	Ratings	Unit
Max. supply voltage	4	Vcc	2.4~9.0	Vdc
RF input voltage	16	Vrf	0.005~10	mVrms
RF input frequency	16	Frf	0.1~100	MHz
Oscillator input voltage	1	Vlocal	80~400	mVrms
IF frequency	-	Fif	455	kHz
Limiter amplifier input voltage	5	Vif	0~400	mVrms
Filter amplifier input voltage	10	Vfa	0.1~300	mVrms
Squelch input voltage	12	Vsq	0 or 2	Vdc
Mute sink current	14	Isq	0.1~30	mA
Temperature range	-	TA	-30~+75	°C

8) NJM2100V (XA0342)

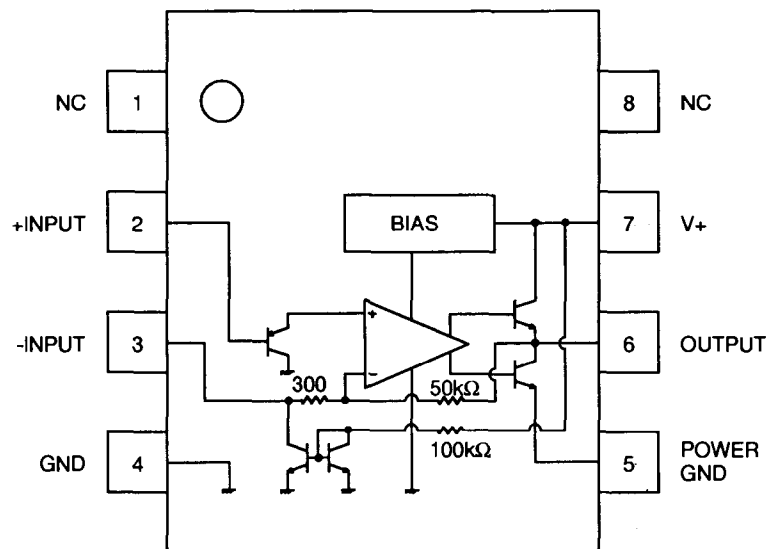
Dual Operational Amplifiers



9) NJM2070M (XA0210)

Low Voltage Power Amplifier

Equivalent Circuit



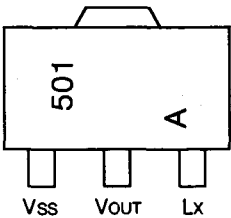
$V_+ = 6V$, $T_a = 25 \pm 2^\circ C$

Parameter	Condition		Symbol	Min.	Typ.	Max.	Unit
Supply voltage			V_+	1.8	-	15	V
Idle current	$R_L = \infty$		I_Q	-	4	7	mA
Output voltage			V_O	-	2.7	-	V
Input bias current			I_B	-	200	-	nA
Output power	THD=10%, $f=1kHz$	$V_+ = 6V$, $R_L = 4\Omega$	P_O	0.5	0.6	-	W
		$V_+ = 4.5V$, $R_L = 4\Omega$		-	0.32	-	W
		$V_+ = 3V$, $R_L = 4\Omega$		-	120	-	mW
		$V_+ = 2V$, $R_L = 4\Omega$		-	30	-	mW
	THD=1%, $f=1kHz$	$V_+ = 6V$, $R_L = 4\Omega$		-	500	-	mW
		$V_+ = 4.5V$, $R_L = 4\Omega$		-	250	-	mW
Distortion	$P_O = 0.4W$, $R_L = 4\Omega$, $f = 1kHz$		THD	-	0.25	-	%
Voltage gain	$f = 1kHz$		A_v	41	44	47	dB
Input impedance	$f = 1kHz$		Z_{IN}	100	-	-	k Ω
Equivalent input noise voltage	$R_S = 10k\Omega$	A curve	V_{n1}	-	2.5	-	μV
		B=22Hz to 22kHz	V_{n2}	-	3	-	μV
Power supply voltage rejection ratio	$f = 100Hz$, $C_x = 100\mu F$		SVR	24	30	-	dB
Power gain band width (-3dB)	$R_L = 8\Omega$, $P_O = 250mW$		P.B	-	200	-	kHz

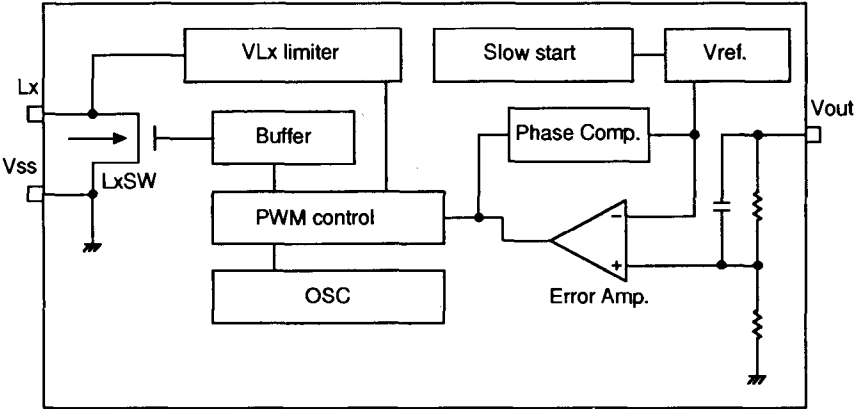
10) RH5RH501A (XA0219)

Vss=0V

Parameter	Symbol	Ratings	Unit
V out terminal voltage	Vout	12	V
Lx terminal voltage	VLx	12	V
Lx terminal current	ILx	250	mA
Power dissipation	Pd	500	mW



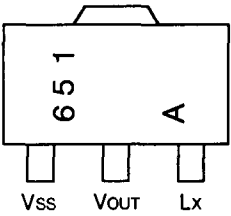
Equivalent Circuit



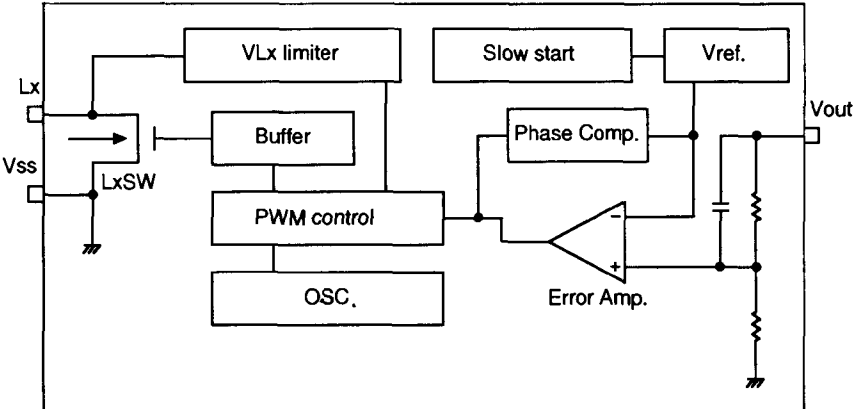
11) RH5RH651A (XA0341)

Vss=0V

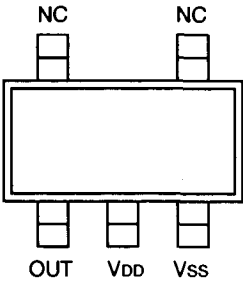
Parameter	Symbol	Ratings	Unit
V out terminal voltage	Vout	12	V
Lx terminal voltage	VLx	12	V
Lx terminal current	ILx	250	mA
Power dissipation	Pd	500	mW



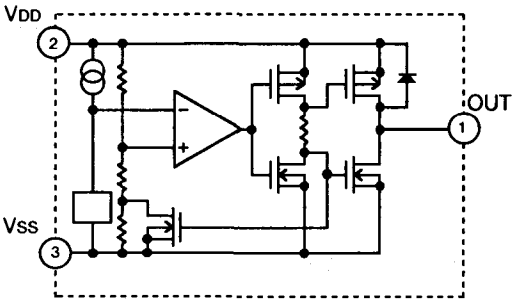
Equivalent Circuit



12) S-80730SL-AT (XA0356)
3.0V Voltage Detector



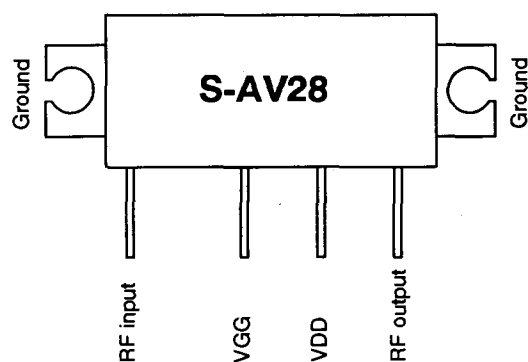
Equivalent Circuit



Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Detection voltage	-VDET		2.928	3.000	3.072	V
Hysteresis width	VHYS		VDET x0.02	VDET x0.05	VDET x0.08	V
Consumption current	I _{SS}	V _{DD} =4.5V	-	1.0	3.0	μA
Operation voltage	V _{DD}		1.0	-	15.0	V
Output current	I _{OUT}	Nch V _{DS} =0.5V	V _{DD} =1.2V 0.23	0.50	-	mA
			V _{DD} =2.4V 1.60	3.70	-	
		Pch V _{DS} =0.5V	V _{DD} =4.8V 0.36	0.62	-	
Temperature factor of detection output voltage	$\frac{\Delta-V_{DET}}{\Delta T_a}$	T _a =-30°C~80°C	-	+/-0.38	-	mV/°C

13) S-AV28 (XA0381) VHF Band FM Power Module

Parameter	Symbol	Ratings	Unit
Max. supply voltage	VDD	17	V
Control voltage	VGG	6	V
RF input power	Pi	50	mW
RF output power	Po	12	W
Total current	I _T	3	A
Operating case temperature	Tc(opr)	-30~+100	°C
Storage temperature	Tstg	-40~+110	°C

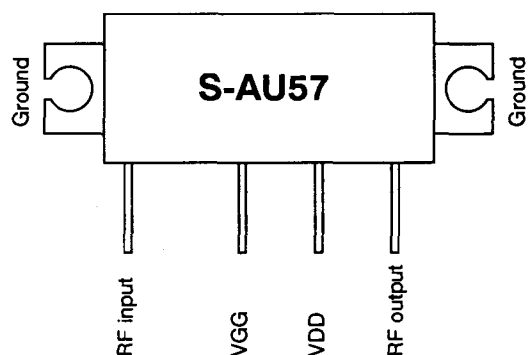


Tc=25°C

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Frequency range	Frang		144	-	148	MHz
Output power	Po	VDD=9.6V VGG=4V Pi=20mW ZG=ZL=50Ω	7	-	-	W
Power gain	Gp		25.4	-	-	dB
Total efficiency	η _T		50	-	-	%
Input VSWR	VSWR _{in}		-	-	2.5	-
Harmonics	HRM		-	-	-15	dB
Load mismatch	-	VDD=15V, VGG=Adjustment Pi=20mW, Po=7W VSWR load 20:1 all phase	No trouble			-
Stability	-	VDD=7.5~11.5V VGG=0~4V Pi=20mW VSWR load 6:1 all phase	No trouble			-

14) S-AU57 (XA0382) UHF Band FM Power Module

Parameter	Symbol	Ratings	Unit
Max. supply voltage	VDD	17	V
Control voltage	VGG	6	V
RF input power	Pi	50	mW
RF output power	Po	12	W
Total current	I _T	3	A
Operating case temperature	Tc(opr)	-30~+100	°C
Storage temperature	Tstg	-40~+110	°C



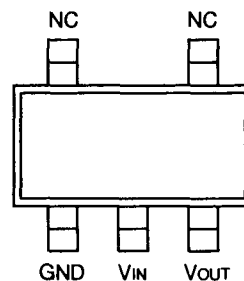
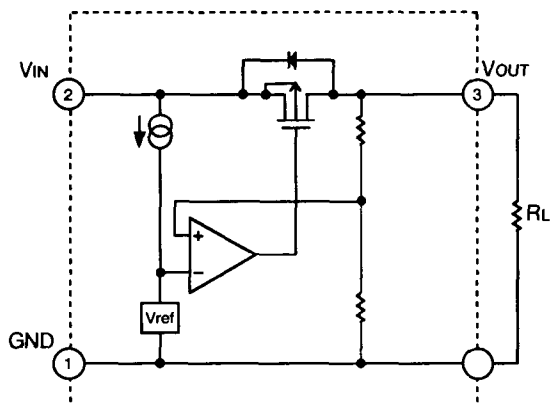
Tc=25°C

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Frequency range	Frang		430	-	450	MHz
Output power	Po	VDD=9.6V VGG=4V Pi=20mW ZG=ZL=50Ω	7	-	-	W
Power gain	Gp		25.4	-	-	dB
Total efficiency	η _T		40	-	-	%
Input VSWR	VSWR _{in}		-	-	2.5	-
Harmonics	HRM		-	-	-25	dBc
Load mismatch	-	VDD=15V, VGG=Adjustment Pi=20mW, Po=7W VSWR load 20:1 all phase	No trouble			-
Stability	-	VDD=7.5~11.5V VGG=0~4V Pi=20mW VSWR load 3:1 all phase	No trouble			-

15) S-81237SG-QE (XA0358)

Voltage Regulator

Equivalent Circuit

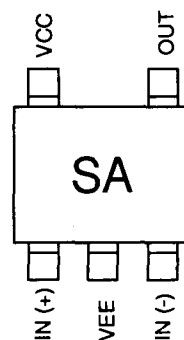
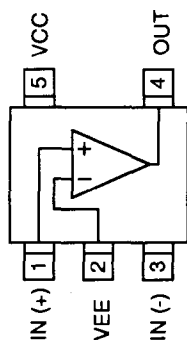


Ta=25°C

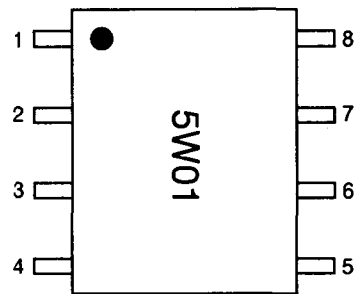
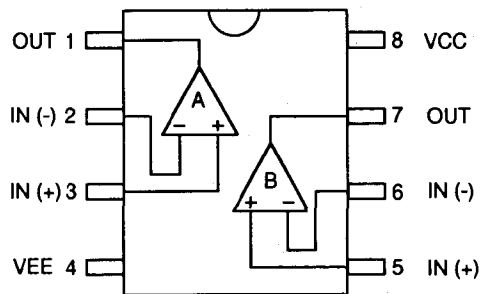
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Output voltage	V _{OUT}	V _{IN} =5.7V, I _{OUT} =10mA	3.626	3.700	3.774	V
Input/output voltage difference	V _{dif}	I _{OUT} =10mA	-	0.31	0.78	V
Input stability 1	ΔV _{OUT1}	V _{IN} =4.6~16V, I _{OUT} =1mA	-	46	92	mV
Input stability 2	ΔV _{OUT2}	V _{IN} =4.6~16V, I _{OUT} =1μA	-	46	259	mV
Load stability	ΔV _{OUT3}	V _{IN} =5.7V, I _{OUT} =1μA~30mA	-	60	100	mV
Consumption current	I _{SS}	V _{IN} =5.7V, No Load	-	1.2	2.5	μA
Input voltage	V _{IN}		-	-	16	V
Temperature factor of output voltage	$\frac{\Delta V_{OUT}}{\Delta T_a}$	V _{IN} =5.7V, I _{OUT} =10mA T _a =-40°C~85°C	-	+/- 0.463	-	mV/°C

16) TA75S01F (XA0332)

Single Operational Amplifiers



17) TA75W01FU (XA0349) Dual Operational Amplifiers

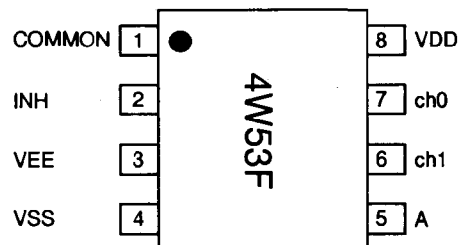


18) TC4W53F (XA0348) 2-Channel Multiplexer/Demultiplexer

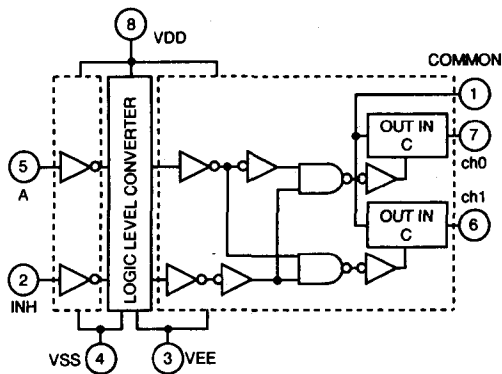
Function Table

Control input		ON channel
INH	A	
L	L	ch 0
L	H	ch 1
H	*	NONE

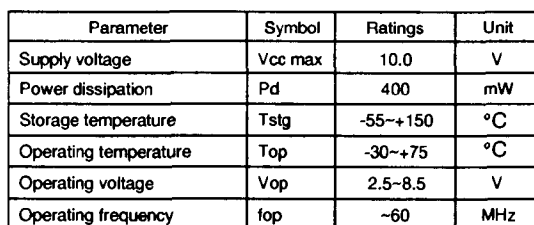
* Don't Care



Block Diagram

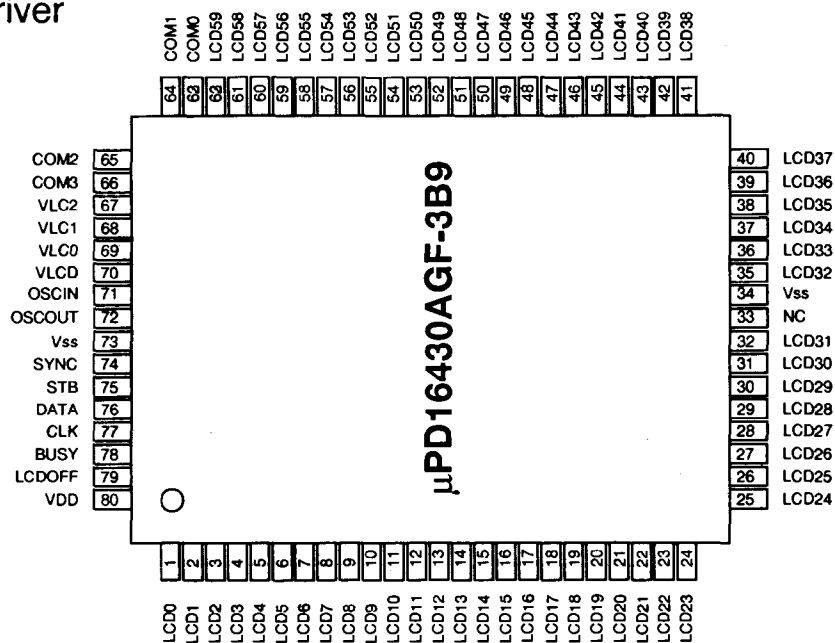


Narrow Band FM IF IC

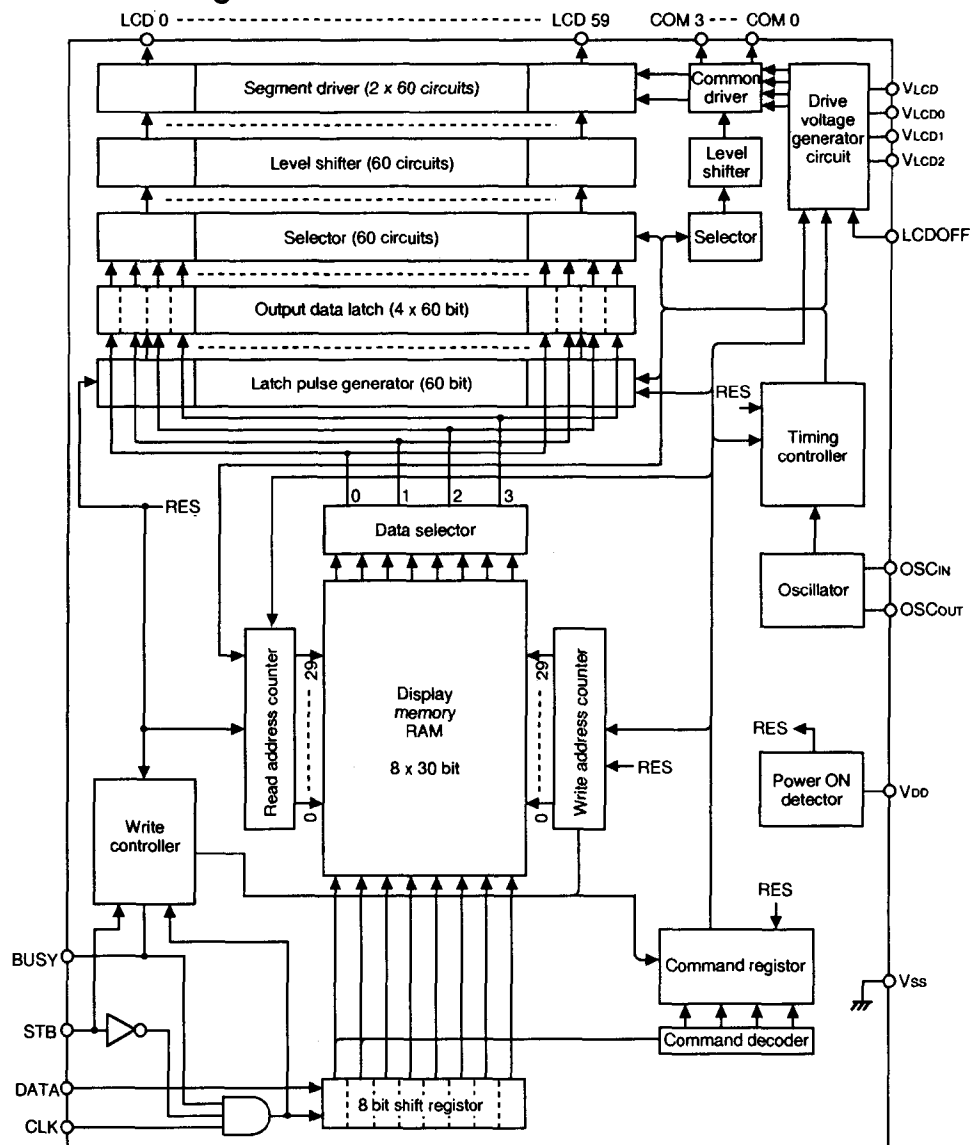


Parameter	Symbol	Ratings			Unit	Condition
		Min	Typical	Max		
Supply Current 1	Icc1		6.8	8.9	mA	No signal, AM ON
Supply Current 2	Icc2		3.9	5.3	mA	No signal, AM OFF
Mixer Conversion Gain	Mg		20		dB	
Mixer Input Impedance	Mz		3.6		K Ω	DC Test
FM						
Limiting Sensitivity	Limit		2.0	8.0	μ V	-3.0dB
Output Voltage	Vo1	85	150	230	mVrms	10mVin +/-3kHz DEV
Distortion	THD1		1.0	2.0	%	10mVin +/-3kHz DEV
Output Impedance	Zo		800		Ω	10mVin
Filter Gain	Gf	30	38		dB	F _{in} =30kHz, V _o =100mV
Scan Control Hi Voltage	SH	2.3			V	Squelch input=2.5V
Scan Control Low Voltage	SL			0.3	V	Squelch input=0V
Squelch Hysteresis	Hys		30		mV	
S meter Output Voltage	S0		0.05	0.5	V	V _{in} =0mV, R _S =68k Ω
S meter Output Voltage	S1	0.05	0.5	0.9	V	V _{in} =0.01mV, R _S =68k Ω
S meter Output Voltage	S2	0.7	1.2	1.7	V	V _{in} =0.1mV, R _S =68k Ω
S meter Output Voltage	S3	1.2	1.8	2.5	V	V _{in} =1mV, R _S =68k Ω
S meter Output Voltage	S4	1.6	2.3	2.9	V	V _{in} =10mV, R _S =68k Ω
S meter Output Voltage	S5	1.8	2.4	2.9	V	V _{in} =100mV, R _S =68k Ω
AM						
Sensitivity	US	20	15		μ V	required input level to get 20mV rms output
Output Voltage	Vo2	60	120	160	mVrms	1kHz, 30%, V _{in} =1mV
Distortion-1	THD2		1.0	2.0	%	1kHz, 30%, V _{in} =1mV
Distortion-2	THD3		2.0	4.0	%	1kHz, 30%, V _{in} =1mV
S/N	S/N	40	48		dB	1kHz, 30%, V _{in} =1mV
AM OFF	Vo	-0.3		0.3	%	

20) μ PD16430AGF-3B9 (XA0355) LCD Driver

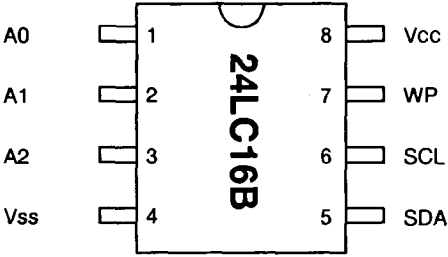
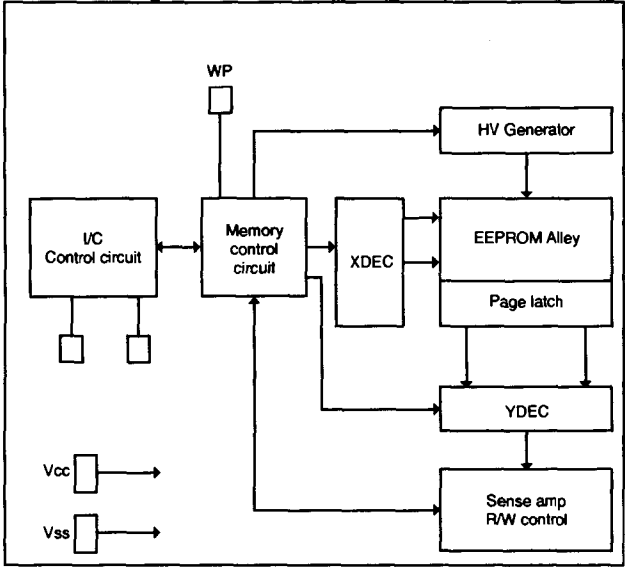


Block Diagram



21) 24LC16B (XA0351)
 16K bits CMOS Serial EEPROM

Block Diagram



Pin Name	Description
Vss	GND terminal
SDA	Serial address/data I/O
SCL	Serial clock
WP	Write protect
Vcc	+2.5V~5.5V power supply
A0, A1, A2	No connection

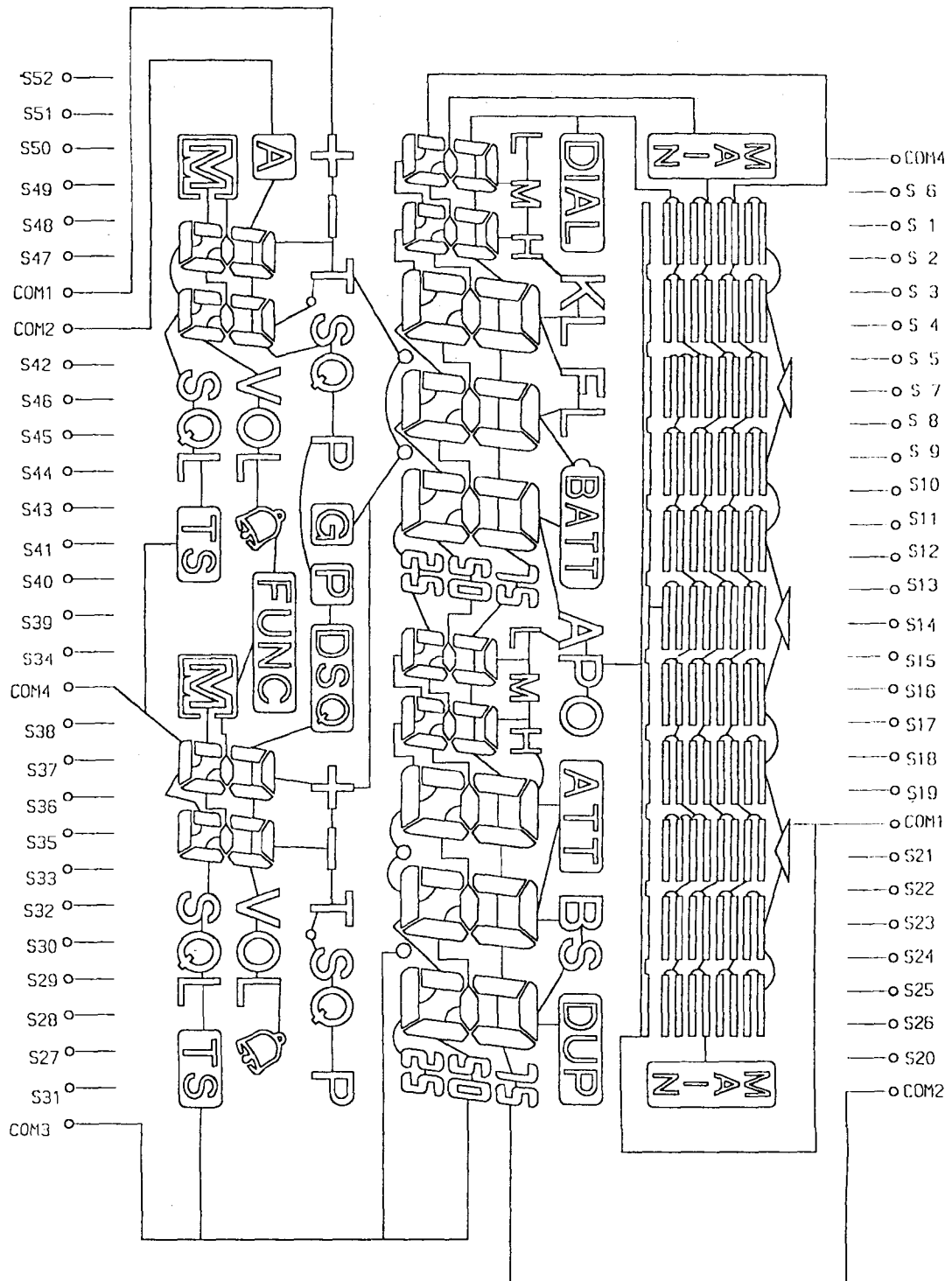
22) Transistor, Diode and LED Outline Drawings

Top View

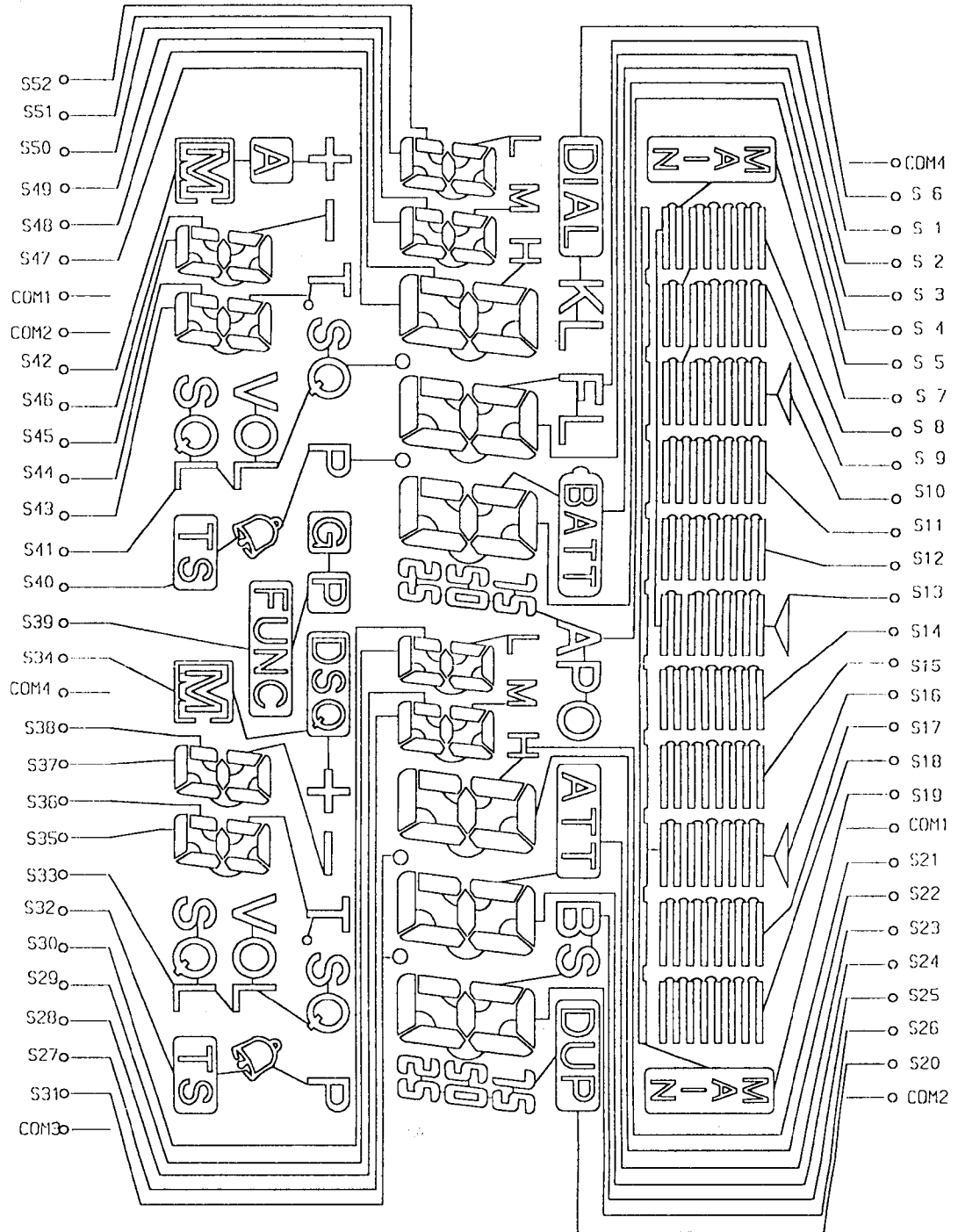
1SS356 XD0272	1SV217 XD0233	1SV255 XD0292	1SV257 XD0293	DA204U XD0130	DA227 XD0238	DAN235U XD0246	DTZ3.6B XD0156
DTZ5.1B XD0165	MA111 XD0290	MA142WA XD0239	MA729 XD0291	MA741WA XD0251	MA742 XD0250	RLS135 XD0066	RN711H XD0257
U2FWJ44N XD0294	BRPG1201W XL0028	SML-310MT XL0036	PG1101F XL0045				
2SA1213 XT0088	2SA1774 XT0139	2SB1181 XT0140	2SC3356 XT0030	2SC4649 XT0108	2SC5065 XT0137	2SC5066 XT0138	2SD2216 XT0135
2SJ144 XE0019	UN9111 XU0062	UN9211 XU0063	UN9216 XU0099				
UMC3 XU0047		XP1111 XU0171		XP1501 XU0172		XP1216 XU0177	

23) LCD Unit

Common

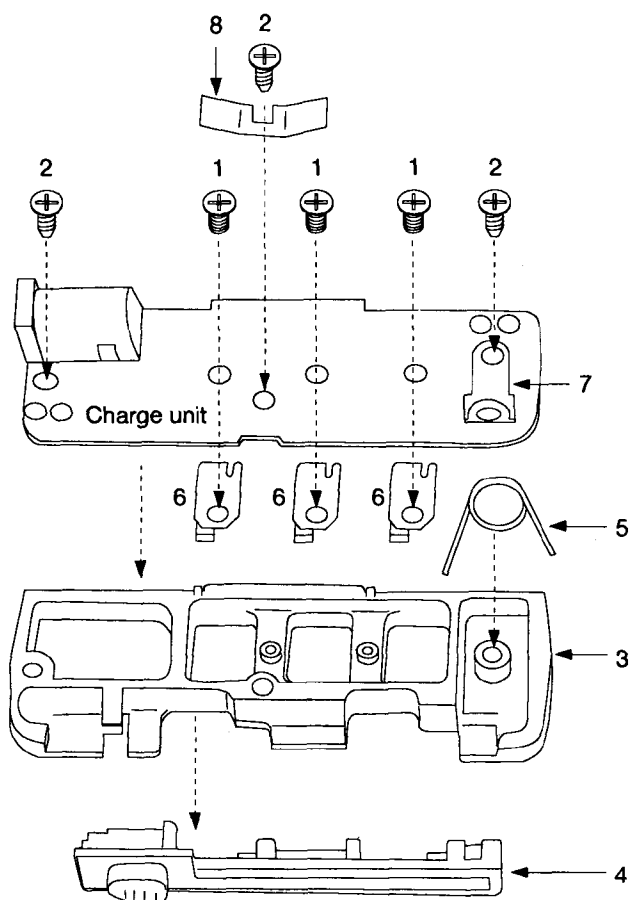


Segment



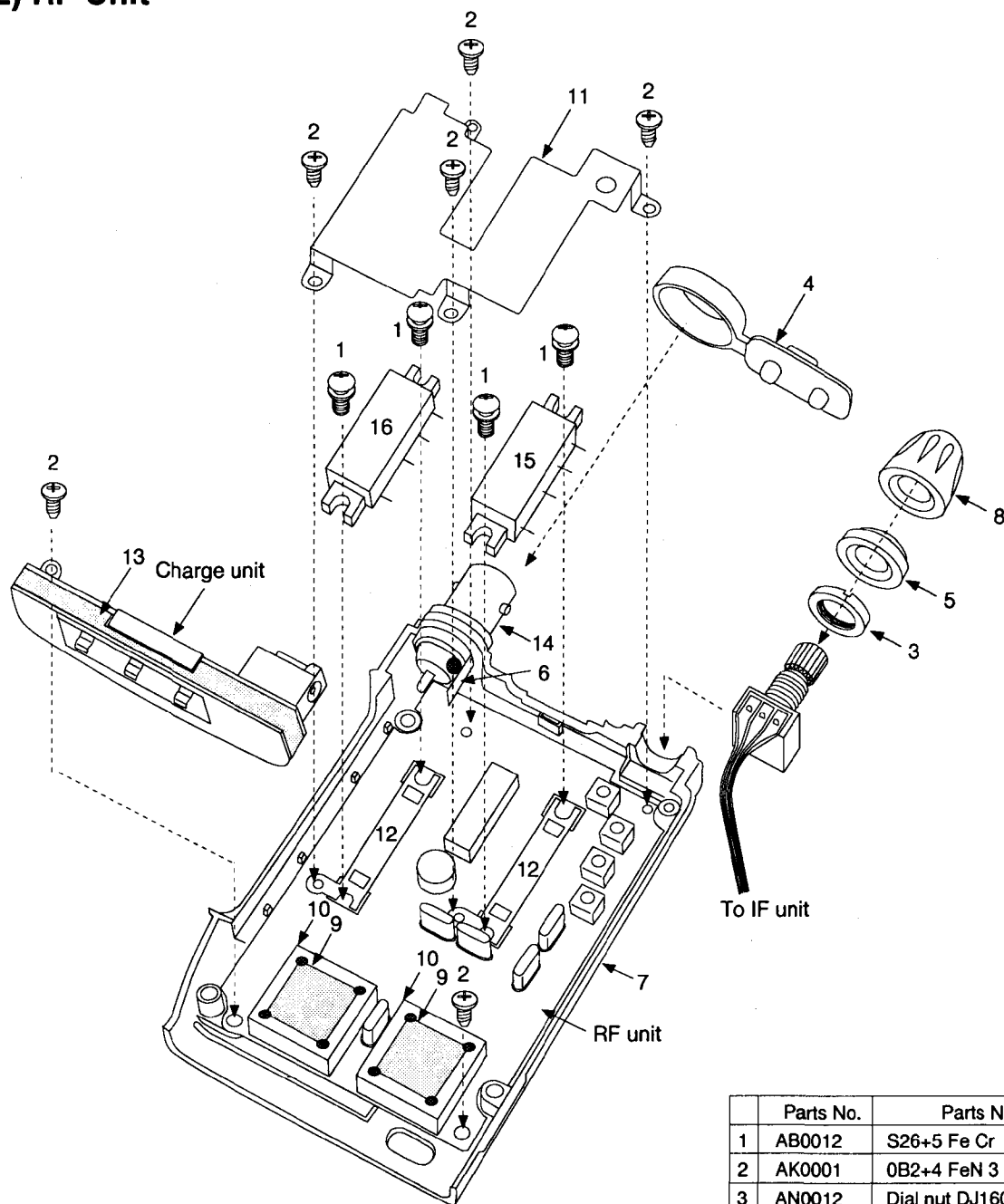
EXPLODED VIEW

1) Charge Unit



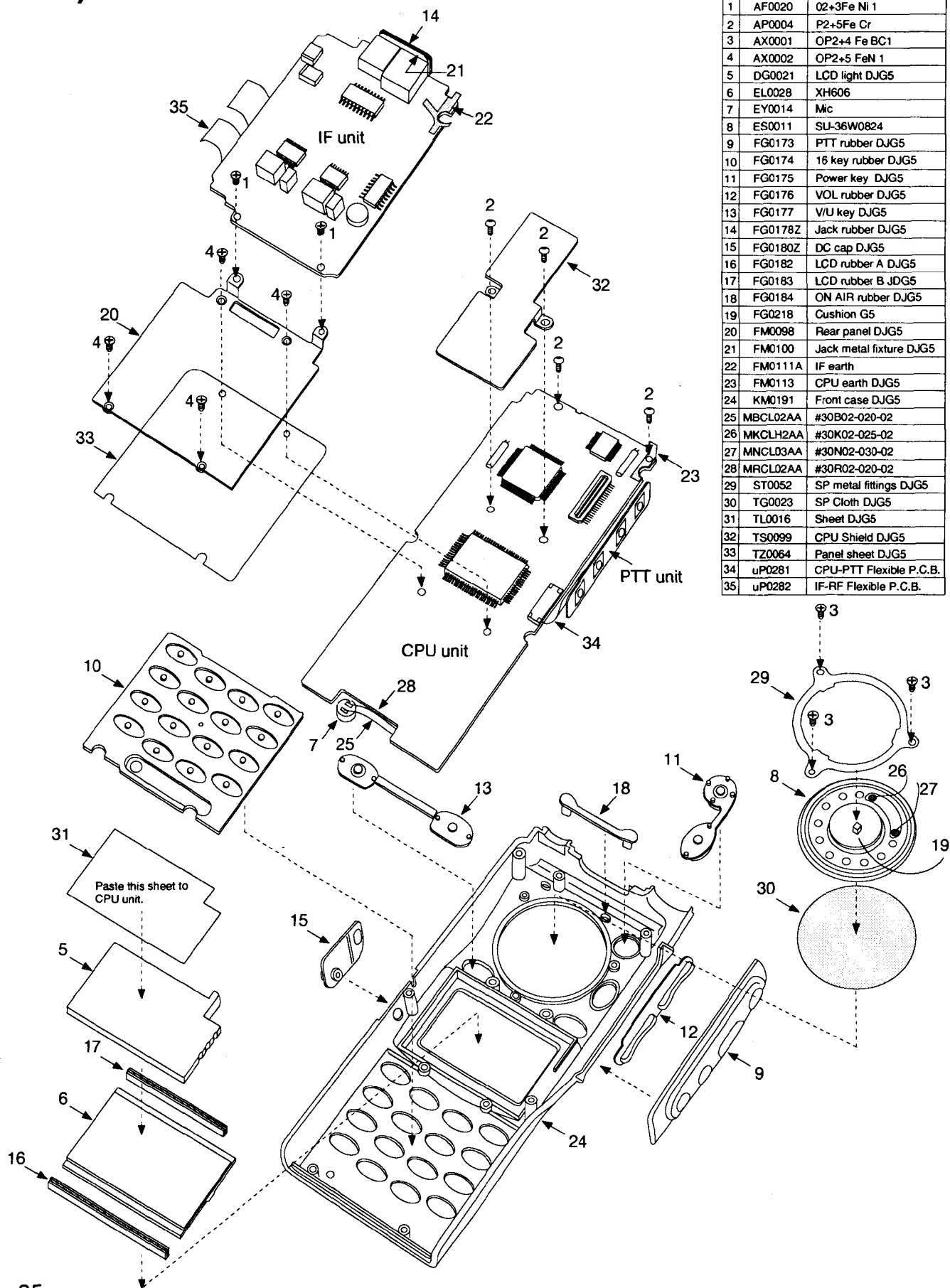
	Parts No.	Parts Name
1	AF0020	02+3Fe Ni 1
2	AX0001	OP2+4 Fe BC1
3	FP0093A	Terminal frame DJG5
4	FP0094	Release knob DJG5
5	SC0008A	Release spring DJG5
6	SD0045	Battery terminal DJF5
7	TS0100	Earth metal fittings DJG5
8	TS0109	VCO earth DJG5

2) RF Unit



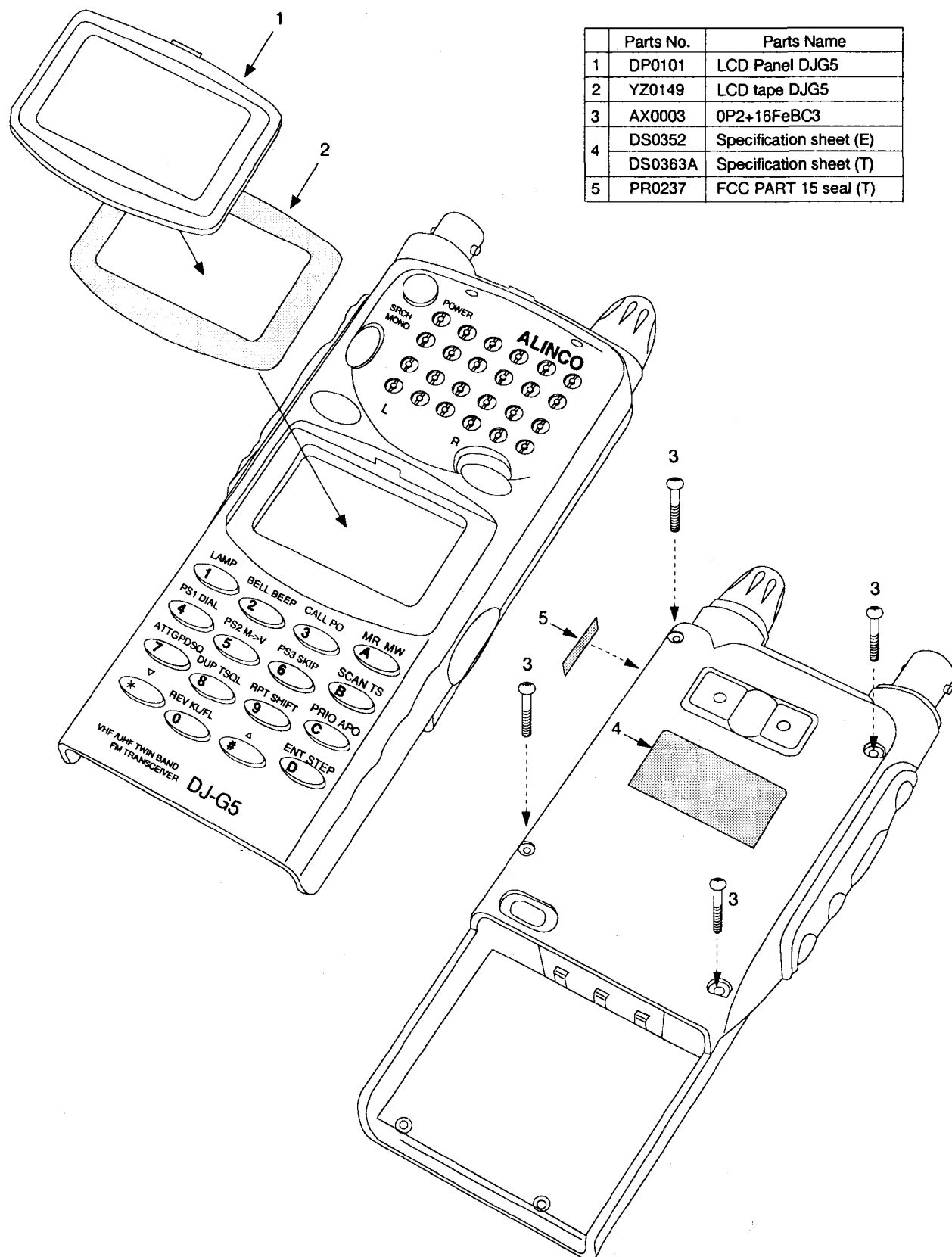
	Parts No.	Parts Name
1	AB0012	S26+5 Fe Cr
2	AK0001	0B2+4 FeN 3
3	AN0012	Dial nut DJ160
4	FG0179Z	Jack cap
5	FG0181Z	Dial cap
6	FM0112	BNC earth DJG5
7	KB0058	Rear case DJG5
8	NK0042	Dial knob DJG5
9	TN0002	VCO shield
10	TS0097	VCO case
11	TS0098	RF shield DJG5
12	TS0101	Module earth
13	TS0110	Charge earth
14	UE0193	BNC antenna connector
15	XA0381	S-AV28
16	XA0382	S-AU57

3) IF Unit/CPU Unit



Parts No.	Parts Name
1	AF0020 Q2+3Fe Ni 1
2	AP0004 P2+5Fe Cr
3	AX0001 OP2+4 Fe BC1
4	AX0002 OP2+5 FeN 1
5	DG0021 LCD light DJG5
6	EL0028 XH606
7	EY0014 Mic
8	ES0011 SU-36W0824
9	FG0173 PTT rubber DJG5
10	FG0174 16 key rubber DJG5
11	FG0175 Power key DJG5
12	FG0176 VOL rubber DJG5
13	FG0177 V/U key DJG5
14	FG0178Z Jack rubber DJG5
15	FG0180Z DC cap DJG5
16	FG0182 LCD rubber A DJG5
17	FG0183 LCD rubber B JDG5
18	FG0184 ON AIR rubber DJG5
19	FG0218 Cushion G5
20	FM0098 Rear panel DJG5
21	FM0100 Jack metal fixture DJG5
22	FM0111A IF earth
23	FM0113 CPU earth DJG5
24	KM0191 Front case DJG5
25	MBCL02AA #30B02-020-02
26	MKCLH2AA #30K02-025-02
27	MNCL03AA #30N02-030-02
28	MRCL02AA #30R02-020-02
29	ST0052 SP metal fittings DJG5
30	TG0023 SP Cloth DJG5
31	TL0016 Sheet DJG5
32	TS0099 CPU Shield DJG5
33	TZ0064 Panel sheet DJG5
34	uP0281 CPU-PTT Flexible P.C.B.
35	uP0282 IF-RF Flexible P.C.B.

4) Front/Rear View



PARTS L1ST

RF Unit

RF unit

RF unit

Ref No	Parts No.	Description	Parts Name	Ver.	Ref No	Parts No.	Description	Parts Name	Ver.
		RF Unit							
C51	CU3031	Chip C.	C1608JB1H471KTA		C117	CS0376	Chip Tantal	TMCMAG0226MTR	
C52	CE0373	Electrolytic C.	16MV100UW		C120	CU3031	Chip C.	C1608JB1H471KTA	
C53	CU3031	Chip C.	C1608JB1H471KTA		C121	CS0213	Chip Tantal	TMCMCA1A225MTR	
C56	CU3031	Chip C.	C1608JB1H471KTA		C122	CS0213	Chip Tantal	TMCMCA1A225MTR	
C57	CS0210	Chip Tantal	TMCMB0J156MTR		C123	CU3051	Chip C.	C1608JB1E223KTA	
					C125	CU3002	Chip C.	C1608CH1H010CTA	
					C126	CU3003	Chip C.	C1608CH1H020CTA	
					C127	CU3003	Chip C.	C1608CH1H020CTA	
					C129	CS0063	Chip Tantal	TMCSA1V104MTR	
C58	CU3031	Chip C.	C1608JB1H471KTA		C130	CU3019	Chip C.	C1608CH1H470JTA	
C59	CU3007	Chip C.	C1608CH1H060CTA		C131	CU3031	Chip C.	C1608JB1H471KTA	
C60	CU3006	Chip C.	C1608CH1H050CTA		C132	CU3031	Chip C.	C1608JB1H471KTA	
C61	CU3012	Chip C.	C1608CH1H120JTA		C133	CS0377	Chip Tantal	TMCMBOG476MTR	
C62	CU3011	Chip C.	C1608CH1H100CTA		C138	CU3035	Chip C.	C1608JB1H102KTA	
C63	CU3005	Chip C.	C1608CH1H040CTA		C139	CU3031	Chip C.	C1608JB1H471KTA	
C64	CU3010	Chip C.	C1608CH1H090CTA		C140	CU3003	Chip C.	C1608CH1H020CTA	
C66	CU3006	Chip C.	C1608CH1H050CTA		C141	CU3035	Chip C.	C1608JB1H102KTA	
C67	CU3010	Chip C.	C1608CH1H090CTA		C142	CU3035	Chip C.	C1608JB1H102KTA	
C68	CU3004	Chip C.	C1608CH1H030CTA		C143	CU3047	Chip C.	C1608JB1H103KTA	
C69	CU3031	Chip C.	C1608JB1H471KTA		C144	CS0049	Chip Tantal	TMCSA1C105MTR	
C70	CS0208	Chip Tantal	TMCMAGJ475MTR		C145	CU3013	Chip C.	C1608CH1H150JTA	
C71	CU3002	Chip C.	C1608CH1H010CTA		C146	CU3013	Chip C.	C1608CH1H150JTA	
C72	CU3008	Chip C.	C1608CH1H070CTA		C147	CU3035	Chip C.	C1608JB1H102KTA	
C73	CU3002	Chip C.	C1608CH1H010CTA		C149	CU3023	Chip C.	C1608CH1H101JTA	
C74	CS0049	Chip Tantal	TMCSA1C105MTR		C150	CU3031	Chip C.	C1608JB1H471KTA	
C75	CU3031	Chip C.	C1608JB1H471KTA		C152	CU3011	Chip C.	C1608CH1H100CTA	
C76	CU3031	Chip C.	C1608JB1H471KTA		C153	CU3019	Chip C.	C1608CH1H470JTA	
C81	CU3031	Chip C.	C1608JB1H471KTA		C154	CU3013	Chip C.	C1608CH1H150JTA	
C83	CU3001	Chip C.	C1608CH1H0R5CTA		C156	CU3019	Chip C.	C1608CH1H470JTA	
C84	CU3002	Chip C.	C1608CH1H010CTA		C158	CU3021	Chip C.	C1608CH1H680JTA	
C85	CU3031	Chip C.	C1608JB1H471KTA		C159	CS0213	Chip Tantal	TMCMCA1A225MTR	
C86	CU3047	Chip C.	C1608JB1H103KTA		C160	CS0213	Chip Tantal	TMCMCA1A225MTR	
C87	CU3031	Chip C.	C1608JB1H471KTA		C161	CU3051	Chip C.	C1608JB1E223KTA	
C88	CU3001	Chip C.	C1608CH1H0R5CTA		C163	CU3002	Chip C.	C1608CH1H010CTA	
C89	CU3002	Chip C.	C1608CH1H010CTA		C165	CU3035	Chip C.	C1608JB1H102KTA	
C90	CU3031	Chip C.	C1608JB1H471KTA		C166	CU3018	Chip C.	C1608CH1H390JTA	
C91	CU3031	Chip C.	C1608JB1H471KTA		C167	CU3017	Chip C.	C1608CH1H330JTA	
C92	CU3031	Chip C.	C1608JB1H471KTA		C168	CS0063	Chip Tantal	TMCSA1V104MTR	
C93	CS0049	Chip Tantal	TMCSA1C105MTR		C169	CU3031	Chip C.	C1608JB1H471KTA	
C95	CU3031	Chip C.	C1608JB1H471KTA		C170	CU3031	Chip C.	C1608JB1H471KTA	
C96	CU3031	Chip C.	C1608JB1H471KTA		C171	CU3031	Chip C.	C1608JB1H471KTA	
C97	CU3031	Chip C.	C1608JB1H471KTA		C173	CU3031	Chip C.	C1608JB1H471KTA	
C99	CU3007	Chip C.	C1608CH1H060CTA		C174	CU3035	Chip C.	C1608JB1H102KTA	
C101	CU3009	Chip C.	C1608CH1H080CTA		C175	CU3006	Chip C.	C1608CH1H050CTA	
C102	CU3031	Chip C.	C1608JB1H471KTA		C176	CU3004	Chip C.	C1608CH1H030CTA	
C103	CU3003	Chip C.	C1608CH1H020CTA		C178	CU3031	Chip C.	C1608JB1H471KTA	
C104	CU3031	Chip C.	C1608JB1H471KTA		C179	CU3035	Chip C.	C1608JB1H102KTA	
C105	CU3031	Chip C.	C1608JB1H471KTA		C180	CS0377	Chip Tantal	TMCMBOG476MTR	
C106	CU3012	Chip C.	C1608CH1H120JTA		C183	CU3004	Chip C.	C1608CH1H030CTA	
C107	CU3011	Chip C.	C1608CH1H100CTA		C184	CU3003	Chip C.	C1608CH1H020CTA	
C108	CU3047	Chip C.	C1608JB1H103KTA		C185	CU3031	Chip C.	C1608JB1H471KTA	
C109	CU3007	Chip C.	C1608CH1H060CTA		C186	CU3006	Chip C.	C1608CH1H050CTA	
C111	CU3031	Chip C.	C1608JB1H471KTA		C187	CU3006	Chip C.	C1608CH1H050CTA	
C112	CU3006	Chip C.	C1608CH1H050CTA		C188	CU3019	Chip C.	C1608CH1H470JTA	
C113	CU3001	Chip C.	C1608CH1H0R5CTA		C189	CU3035	Chip C.	C1608JB1H102KTA	
C115	CU3007	Chip C.	C1608CH1H060CTA		C190	CU3003	Chip C.	C1608CH1H020CTA	
C116	CU3047	Chip C.	C1608JB1H103KTA						

RF unit					RF unit				
Ref No	Parts No.	Description	Parts Name	Ver.	Ref No	Parts No.	Description	Parts Name	Ver.
C192	CU3035	Chip C.	C1608JB1H102KTA		C247	CS0049	Chip Tantal	TMCSA1C105MTR	
C193	CU3001	Chip C.	C1608CH1H0R5CTA		C248	CU3035	Chip C.	C1608JB1H102KTA	
C194	CU3035	Chip C.	C1608JB1H102KTA		C249	CU3035	Chip C.	C1608JB1H102KTA	
C195	CU3035	Chip C.	C1608JB1H102KTA		C250	CU3031	Chip C.	C1608JB1H471KTA	
C196	CU3001	Chip C.	C1608CH1H0R5CTA		C251	CU3035	Chip C.	C1608JB1H102KTA	
C197	CU3014	Chip C.	C1608CH1H180JTA		C252	CS0366	Chip Tantal	TMCSA0G106MTR	
					D51	XD0251	Diode	MA741WATX	
					D52	XD0066	Diode	RLS135TE11	
					D53	XD0251	Diode	MA741WATX	
					D55	XD0066	Diode	RLS135TE11	
C198	CU3017	Chip C.	C1608CH1H330JTA		D56	XD0251	Diode	MA741WATX	
C199	CU3016	Chip C.	C1608CH1H270JTA		D57	XD0246	Diode	DAN235UT106	
C201	CU3011	Chip C.	C1608CH1H100CTA		D58	XD0272	Diode	1SS356TW11	
C202	CU3035	Chip C.	C1608JB1H102KTA		D59	XD0246	Diode	DAN235UT106	
C203	CU3020	Chip C.	C1608CH1H560JTA		D60	XD0272	Diode	1SS356TW11	
C204	CU3013	Chip C.	C1608CH1H150JTA		D61	XD0246	Diode	DAN235UT106	
C205	CU3035	Chip C.	C1608JB1H102KTA		D62	XD0272	Diode	1SS356TW11	
C206	CS0366	Chip Tantal	TMCSA0G106MTR		D63	XD0246	Diode	DAN235UT106	
C207	CU3047	Chip C.	C1608JB1H103KTA		D64	XD0246	Diode	DAN235UT106	
C208	CU3022	Chip C.	C1608CH1H820JTA		D65	XD0272	Diode	1SS356TW11	
C209	CU3022	Chip C.	C1608CH1H820JTA		D66	XD0233	Diode	1SV217TPH4	
C210	CU3019	Chip C.	C1608CH1H470JTA		D67	XD0233	Diode	1SV217TPH4	
C211	CU3003	Chip C.	C1608CH1H020CTA		D68	XD0233	Diode	1SV217TPH4	
C212	CU3035	Chip C.	C1608JB1H102KTA		D69	XD0233	Diode	1SV217TPH4	
C213	CU3011	Chip C.	C1608CH1H100CTA		D70	XD0272	Diode	1SS356TW11	
C214	CU3017	Chip C.	C1608CH1H330JTA		D71	XD0066	Diode	RLS135TE11	
C215	CU3024	Chip C.	C1608CH1H121JTA		D72	XD0066	Diode	RLS135TE11	
C216	CU3024	Chip C.	C1608CH1H121JTA		D74	XD0251	Diode	MA741WATX	
C217	CU3035	Chip C.	C1608JB1H102KTA		D75	XD0272	Diode	1SS356TW11	
C218	CU3035	Chip C.	C1608JB1H102KTA						
C219	CU3035	Chip C.	C1608JB1H102KTA		D76	XD0272	Diode	1SS356TW11	
C220	CU3007	Chip C.	C1608CH1H060CTA		D77	XD0272	Diode	1SS356TW11	
C221	CU3005	Chip C.	C1608CH1H040CTA		FL51	QA0083	Helical Filte	QA0083	E
C222	CU3015	Chip C.	C1608CH1H220JTA		FL51	QA0099	Helical Filte	QA0099	T
C223	CU3035	Chip C.	C1608JB1H102KTA		IC51	XA0382	IC	S-AU57	
C224	CU3035	Chip C.	C1608JB1H102KTA		IC52	XA0246	IC	BU4094BFT1	
C225	CU3020	Chip C.	C1608CH1H560JTA		IC53	XA0352	IC	M64076GP	
C226	CU3015	Chip C.	C1608CH1H220JTA		IC54	XA0381	IC	S-AV28	
C227	CU3004	Chip C.	C1608CH1H030CTA		L51	QC0288	Chip L.	NL252018T1R0J	
C228	CU3011	Chip C.	C1608CH1H100CTA		L52	QC0423	Chip L.	LL1608-F27NK	
C229	CU3016	Chip C.	C1608CH1H270JTA		L53	QKA35A	Coil	MR1.5 3.5T 0.4	
C230	CU3018	Chip C.	C1608CH1H390JTA		L54	QKA45A	Coil	MR1.5 4.5T 0.4	
C231	CU3018	Chip C.	C1608CH1H390JTA		L55	QKA45A	Coil	MR1.5 4.5T 0.4	
C232	CU3035	Chip C.	C1608JB1H102KTA		L56	QC0423	Chip L.	LL1608-F27NK	
C233	CU3035	Chip C.	C1608JB1H102KTA		L57	QKA35A	Coil	MR1.5 3.5T 0.4	
C234	CS0049	Chip Tantal	TMCSA1C105MTR		L58	QKA35A	Coil	MR1.5 3.5T 0.4	
C235	CU3007	Chip C.	C1608CH1H060CTA		L59	QKA45A	Coil	MR1.5 4.5T 0.4	
C236	CU3002	Chip C.	C1608CH1H010CTA		L60	QC0421	Chip L.	LL1608-F18NK	
C237	CU3035	Chip C.	C1608JB1H102KTA		L61	QC0288	Chip L.	NL252018T1R0J	
C238	CU3035	Chip C.	C1608JB1H102KTA		L62	QC0424	Chip L.	LL1608-F33NK	
C239	CU3035	Chip C.	C1608JB1H102KTA		L63	QC0422	Chip L.	LL1608-F22NK	
C240	CS0210	Chip Tantal	TMCSB0J156MTR		L64	QC0422	Chip L.	LL1608-F22NK	
C241	CU3005	Chip C.	C1608CH1H040CTA		L65	QC0430	Chip L.	MLF1608DR10KTA00	
C242	CU3002	Chip C.	C1608CH1H010CTA		L66	QC0424	Chip L.	LL1608-F33NK	
C243	CU3035	Chip C.	C1608JB1H102KTA		L67	QC0422	Chip L.	LL1608-F22NK	
C244	CU3035	Chip C.	C1608JB1H102KTA		L68	QC0395	Chip L.	LQN1A33NJ04	
C245	CS0049	Chip Tantal	TMCSA1C105MTR						
C246	CU3035	Chip C.	C1608JB1H102KTA						

Ref No	Parts No.	Description	Parts Name	Ver
R105	RK3050	Chip R.	ERJ3G5YJ103V	
R106	RK3026	Chip R.	ERJ3G5YJ101V	
R107	RK3034	Chip R.	ERJ3G5YJ471V	
R108	RK3026	Chip R.	ERJ3G5YJ101V	
R109	RK3050	Chip R.	ERJ3G5YJ103V	
R110	RK3061	Chip R.	ERJ3G5YJ823V	
R111	RK3026	Chip R.	ERJ3G5YJ101V	
R112	RK3022	Chip R.	ERJ3G5YJ470V	
R113	RK3022	Chip R.	ERJ3G5YJ470V	
R114	RK3026	Chip R.	ERJ3G5YJ101V	
R115	RK3026	Chip R.	ERJ3G5YJ101V	
R116	RK3034	Chip R.	ERJ3G5YJ471V	
R117	RK3042	Chip R.	ERJ3G5YJ222V	
R118	RK3061	Chip R.	ERJ3G5YJ823V	
R119	RK3061	Chip R.	ERJ3G5YJ823V	
R120	RK3030	Chip R.	ERJ3G5YJ221V	
R121	RK3036	Chip R.	ERJ3G5YJ681V	
R122	RK3066	Chip R.	ERJ3G5YJ224V	
R123	RK3050	Chip R.	ERJ3G5YJ103V	
R124	RK3050	Chip R.	ERJ3G5YJ103V	
R125	RK3050	Chip R.	ERJ3G5YJ103V	
R126	RK3050	Chip R.	ERJ3G5YJ103V	
R127	RK3053	Chip R.	ERJ3G5YJ183V	
R128	RK3047	Chip R.	ERJ3G5YJ562V	
R129	RK3057	Chip R.	ERJ3G5YJ393V	
R130	RK3026	Chip R.	ERJ3G5YJ101V	
R131	RK3026	Chip R.	ERJ3G5YJ101V	
R132	RK3026	Chip R.	ERJ3G5YJ101V	
R133	RK3026	Chip R.	ERJ3G5YJ101V	
R135	RK3026	Chip R.	ERJ3G5YJ101V	
R136	RK3036	Chip R.	ERJ3G5YJ681V	
R137	RK3050	Chip R.	ERJ3G5YJ103V	
R138	RK3035	Chip R.	ERJ3G5YJ561V	
R139	RK3036	Chip R.	ERJ3G5YJ681V	
R140	RK3061	Chip R.	ERJ3G5YJ823V	
R141	RK3060	Chip R.	ERJ3G5YJ683V	
R143	RK3024	Chip R.	ERJ3G5YJ680V	
R146	RK3062	Chip R.	ERJ3G5YJ104V	
R147	RK3034	Chip R.	ERJ3G5YJ471V	
R148	RK3061	Chip R.	ERJ3G5YJ823V	
R149	RK3022	Chip R.	ERJ3G5YJ470V	
R150	RK3022	Chip R.	ERJ3G5YJ470V	
R151	RK3026	Chip R.	ERJ3G5YJ101V	
R152	RK3042	Chip R.	ERJ3G5YJ222V	
R153	RK3042	Chip R.	ERJ3G5YJ222V	
R154	RK3026	Chip R.	ERJ3G5YJ101V	
R155	RK3026	Chip R.	ERJ3G5YJ101V	
R156	RK3001	Chip R.	ERJ3G5Y0R00V	
R157	RK3033	Chip R.	ERJ3G5YJ391V	
R158	RK3058	Chip R.	ERJ3G5YJ473V	
R159	RK3034	Chip R.	ERJ3G5YJ471V	
R160	RK3053	Chip R.	ERJ3G5YJ183V	
R161	RK3061	Chip R.	ERJ3G5YJ823V	
R162	RK3018	Chip R.	ERJ3G5YJ220V	

RF unit

Ref No	Parts No.	Description	Parts Name	Ver
R163	RK3060	Chip R.	ERJ3G5YJ683V	
R164	RK3026	Chip R.	ERJ3G5YJ101V	
R166	RK3065	Chip R.	ERJ3G5YJ184V	
R167	RK3042	Chip R.	ERJ3G5YJ222V	
R168	RK3030	Chip R.	ERJ3G5YJ681V	
R169	RK3036	Chip R.	ERJ3G5YJ681V	
R170	RK3065	Chip R.	ERJ3G5YJ184V	
R171	RK3026	Chip R.	ERJ3G5YJ101V	
R172	RK3062	Chip R.	ERJ3G5YJ104V	
R173	RK3062	Chip R.	ERJ3G5YJ104V	
R174	RK3062	Chip R.	ERJ3G5YJ104V	
R175	RK3062	Chip R.	ERJ3G5YJ104V	
R176	RK3050	Chip R.	ERJ3G5YJ103V	
R177	RK3026	Chip R.	ERJ3G5YJ101V	
R178	RK3026	Chip R.	ERJ3G5YJ101V	
R179	RK3026	Chip R.	ERJ3G5YJ101V	
R181	RK3040	Chip R.	ERJ3G5YJ152V	
R182	RK3062	Chip R.	ERJ3G5YJ104V	
R184	RK3026	Chip R.	ERJ3G5YJ101V	
R185	RK3038	Chip R.	ERJ3G5YJ102V	
R186	RK3026	Chip R.	ERJ3G5YJ101V	
R187	RK3026	Chip R.	ERJ3G5YJ101V	
R188	RK3058	Chip R.	ERJ3G5YJ473V	
R189	RK3046	Chip R.	ERJ3G5YJ472V	
R190	RK3050	Chip R.	ERJ3G5YJ103V	
R191	RK3051	Chip R.	ERJ3G5YJ103V	
R192	RK3050	Chip R.	ERJ3G5YJ103V	
R193	RK3058	Chip R.	ERJ3G5YJ473V	
R194	RK3034	Chip R.	ERJ3G5YJ471V	
R195	RK3043	Chip R.	ERJ3G5YJ222V	
R196	RK3049	Chip R.	ERJ3G5YJ822V	
R197	RK3034	Chip R.	ERJ3G5YJ471V	
R198	RK3049	Chip R.	ERJ3G5YJ822V	
R199	RK3026	Chip R.	ERJ3G5YJ101V	
R200	RK3032	Chip R.	ERJ3G5YJ331V	
R201	RK3030	Chip R.	ERJ3G5YJ331V	
R202	RK3034	Chip R.	ERJ3G5YJ471V	
R203	RK3058	Chip R.	ERJ3G5YJ473V	
R204	RK3019	Chip R.	ERJ3G5YJ270V	
VC51	CT0012	Trimmer	CTJ10AW	
VR51	RH0140	Trim.pot	MVR22HXB RN472	
VR52	RH0146	Trim.pot	MVR22HXB RN473	
VR53	RH0140	Trim.pot	MVR22HXB RN472	
VR54	RH0144	Trim.pot	MVR22HXB RN223	
W51	MYCKH4G	Wire	#28YH1-045-H1	
X51	XQ0060	Crystal	UM-1/T12.8MHZ	
XF51	XF0019	Filter	45.1MHZ45M15BE	
XF53	XF0020	Filter	38.9MHZ38M15B	
TN0004		Coil shield		
TS0101		Module earth DUG5		
TZ0049		Silicon dumper UM1		
RD0108	Resistor		JPW01R-01	

RF unit

Ref N	Parts No.	Description	Parts Name	Ver.
L70	QKA25A	Coil	MR1.5.2.5 T 0.4	
L72	QC0426	Chip L.	LL1608-F47NK	
L73	QC0395	Chip L.	LQN1A33NJ04	
L74	QC0395	Chip L.	LQN1A33NJ04	
L75	QC0422	Chip L.	LL1608-F22NK	
L77	QC0395	Chip L.	LQN1A33NJ04	
L78	QC0395	Chip L.	LQN1A33NJ04	
L79	QC0292	Chip L.	NL252018T-2R2J	
L81	QA0071	Coil	LQA0071-T	
L82	QA0071	Coil	LQA0071-T	
L83	QC0430	Chip L.	MLF1608DR10KTA00	
L85	QA0071	Coil	LQA0071-T	
L86	QA0071	Coil	LQA0071-T	
L87	QC0292	Chip L.	NL252018T-2R2J	
L88	QKA75A	Coil	QKA75A	
L89	QC0427	Chip L.	LL1608-F56NK	
L90	QKA75A	Coil	QKA75A	
L91	QKA75A	Coil	QKA75A	
L92	QKA75A	Coil	QKA75A	
L94	QC0426	Chip L.	LL1608-F47NK	
L95	QC0430	Chip L.	MLF1608DR10KTA00	
L97	QC0430	Chip L.	MLF1608DR10KTA00	
Q51	XT0088	Transistor	2SA1213YTE12L	
Q52	XU0172	Transistor	XP1501-TX	
Q53	XT0119	Transistor	ZSC3356-11BR24	
Q54	XU0063	Transistor	2SC5066-0(TTE85L)	
Q55	XU0063	Transistor	UN9211TX	
Q56	XU0171	Transistor	XP1111-TX	
Q58	XU0171	Transistor	XP1111-TX	
Q59	XU0172	Transistor	XP1501-TX	
Q60	XT0108	Transistor	2SC4649-TL	
Q61	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q62	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q63	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q64	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q65	XT0135	Transistor	ZSD2216R-TX	
Q66	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q67	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q68	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q69	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q70	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q72	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q73	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q74	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q75	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q76	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q77	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q78	XT0108	Transistor	2SC4649-TL	
Q79	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q80	XT0119	Transistor	ZSC3356-11BR24	
Q81	XT0138	Transistor	ZSC5066-0(TTE85L)	
Q82	XT0088	Transistor	2SA1213YTE12L	
Q83	XU0172	Transistor	XP1501-TX	
Q84	XU0172	Transistor	XP1501-TX	

RF unit

Ref No	Parts No.	Description	Parts Name	Ver.
Q85	XU0063	Transistor	UN9211TX	
R51	RK3026	Chip R.	ERJ3G5YJ101V	
R52	RK3026	Chip R.	ERJ3G5YJ101V	
R53	RK3026	Chip R.	ERJ3G5YJ101V	
R54	RK3051	Chip R.	ERJ3G5YJ123V	
R55	RK3074	Chip R.	ERJ3G5YJ105V	
R57	RK3050	Chip R.	ERJ3G5YJ103V	
R58	RK3050	Chip R.	ERJ3G5YJ103V	
R59	RK3040	Chip R.	ERJ3G5YJ152V	
R60	RK3056	Chip R.	ERJ3G5YJ333V	
R62	RK3050	Chip R.	ERJ3G5YJ103V	
R63	RK3049	Chip R.	ERJ3G5YJ822V	
R64	RK3034	Chip R.	ERJ3G5YJ471V	
R65	RK3049	Chip R.	ERJ3G5YJ822V	
R66	RK3066	Chip R.	ERJ3G5YJ224V	
R67	RK3050	Chip R.	ERJ3G5YJ103V	
R68	RK3038	Chip R.	ERJ3G5YJ102V	
R69	RK3026	Chip R.	ERJ3G5YJ101V	
R70	RK3026	Chip R.	ERJ3G5YJ101V	
R71	RK3026	Chip R.	ERJ3G5YJ101V	
R72	RK3046	Chip R.	ERJ3G5YJ472V	
R73	RK3061	Chip R.	ERJ3G5YJ823V	
R74	RK3058	Chip R.	ERJ3G5YJ473V	
R75	RK3050	Chip R.	ERJ3G5YJ103V	
R76	RK3026	Chip R.	ERJ3G5YJ101V	
R77	RK3034	Chip R.	ERJ3G5YJ471V	
R78	RK3040	Chip R.	ERJ3G5YJ152V	
R79	RK3043	Chip R.	ERJ3G5YJ272V	
R80	RK3026	Chip R.	ERJ3G5YJ101V	
R81	RK3058	Chip R.	ERJ3G5YJ473V	
R82	RK3026	Chip R.	ERJ3G5YJ101V	
R83	RK3026	Chip R.	ERJ3G5YJ101V	
R84	RK3026	Chip R.	ERJ3G5YJ101V	
R85	RK3058	Chip R.	ERJ3G5YJ473V	
R86	RK3033	Chip R.	ERJ3G5YJ373V	
R87	RK3058	Chip R.	ERJ3G5YJ473V	
R88	RK3035	Chip R.	ERJ3G5YJ561V	
R89	RK3020	Chip R.	ERJ3G5YJ330V	
R90	RK3061	Chip R.	ERJ3G5YJ823V	
R91	RK3060	Chip R.	ERJ3G5YJ663V	
R92	RK3062	Chip R.	ERJ3G5YJ104V	
R93	RK3026	Chip R.	ERJ3G5YJ101V	
R94	RK3050	Chip R.	ERJ3G5YJ103V	
R95	RK3042	Chip R.	ERJ3G5YJ222V	
R96	RK3050	Chip R.	ERJ3G5YJ103V	
R97	RK3050	Chip R.	ERJ3G5YJ103V	
R98	RK3064	Chip R.	ERJ3G5YJ154V	
R99	RK3036	Chip R.	ERJ3G5YJ681V	
R100	RK3047	Chip R.	ERJ3G5YJ562V	
R101	RK3062	Chip R.	ERJ3G5YJ104V	
R102	RK3050	Chip R.	ERJ3G5YJ103V	
R103	RK3053	Chip R.	ERJ3G5YJ183V	
R104	RK3050	Chip R.	ERJ3G5YJ103V	

RF unit

IF unit					IF unit				
Ref N	Parts No.	Description	Parts Name	Ver.	Ref No	Parts No.	Description	Parts Name	Ver.
		IF Unit							
C301	CU3047	Chip C.	C1608JB1H103KTA		C354	CU3035	Chip C.	C1608JB1H102KTA	
C302	CE0374	Electrolytic C	16CV100BS		C355	CU3059	Chip C.	C1608JF1E104ZTA	
C303	CU3035	Chip C.	C1608JB1H102KTA		C356	CU8042	Chip C.	C2012JB1C104KTA	
C304	CU3059	Chip C.	C1608JF1E104ZTA		C357	CS0060	Chip Tantal	TMCSA1E474MTR	
C305	CS0378	Chip Tantal	TMCMC0G107MTR		C358	CU3047	Chip C.	C1608JB1H103KTA	
C306	CU3035	Chip C.	C1608JB1H102KTA		C359	CS0366	Chip Tantal	TMCMA0G106MTR	
C307	CU3047	Chip C.	C1608JB1H103KTA		C360	CU3051	Chip C.	C1608JB1E223KTA	
C308	CU3047	Chip C.	C1608JB1H103KTA		C362	CU3035	Chip C.	C1608JB1H102KTA	
C309	CU3047	Chip C.	C1608JB1H103KTA		C363	CS0063	Chip Tantal	TMCSA1V104MTR	
C310	CS0376	Chip Tantal	TMCMA0G226MTR		C364	CU3047	Chip C.	C1608JB1H103KTA	
C311	CU3006	Chip C.	C1608CH1H050CTA		C365	CU3047	Chip C.	C1608JB1H103KTA	
C312	CU3008	Chip C.	C1608CH1H070CTA		C366	CU3047	Chip C.	C1608JB1H103KTA	
C313	CU3059	Chip C.	C1608JF1E104ZTA		C367	CU3047	Chip C.	C1608JB1H103KTA	
C314	CU3059	Chip C.	C1608JF1E104ZTA		C368	CU8042	Chip C.	C2012JB1C104KTA	
C315	CU3021	Chip C.	C1608CH1H680JTA		C369	CU3047	Chip C.	C1608JB1H103KTA	
C316	CU3051	Chip C.	C1608JB1E223KTA		C370	CU3051	Chip C.	C1608JB1E223KTA	
C317	CU3047	Chip C.	C1608JB1H103KTA		C371	CS0376	Chip Tantal	TMCMA0G226MTR	
C318	CU3035	Chip C.	C1608JB1H102KTA		C372	CS0376	Chip Tantal	TMCMA0G226MTR	
C319	CU3023	Chip C.	C1608CH1H101JTA		C373	CU3047	Chip C.	C1608JB1H103KTA	
C320	CU3023	Chip C.	C1608CH1H101JTA		C374	CS0216	Chip Tantal	TMCMB1A106MTR	
C321	CU3035	Chip C.	C1608JB1H102KTA		C375	CS0377	Chip Tantal	TMCMB0G476MTR	
C322	CU3059	Chip C.	C1608JF1E104ZTA		C376	CS0376	Chip Tantal	TMCMA0G226MTR	
C323	CU8042	Chip C.	C2012JB1C104KTA		C377	CS0049	Chip Tantal	TMCSA1C105MTR	
C324	CS0060	Chip Tantal	TMCSA1E474MTR		C378	CS0376	Chip Tantal	TMCMA0G226MTR	
C325	CU3047	Chip C.	C1608JB1H103KTA		C379	CS0376	Chip Tantal	TMCMA0G226MTR	
C326	CU3035	Chip C.	C1608JB1H102KTA		C380	CS0049	Chip Tantal	TMCSA1C105MTR	
					C381	CS0376	Chip Tantal	TMCMA0G226MTR	
C327	CS0063	Chip Tantal	TMCSA1V104MTR						
C328	CU3047	Chip C.	C1608JB1H103KTA		C382	CU3035	Chip C.	C1608JB1H102KTA	
C329	CU3047	Chip C.	C1608JB1H103KTA		C383	CU3023	Chip C.	C1608CH1H101JTA	
C330	CU3047	Chip C.	C1608JB1H103KTA		C384	CU3023	Chip C.	C1608CH1H101JTA	
C331	CU8042	Chip C.	C2012JB1C104KTA		C385	CS0049	Chip Tantal	TMCSA1C105MTR	
C332	CU3047	Chip C.	C1608JB1H103KTA		C386	CS0049	Chip Tantal	TMCSA1C105MTR	
C333	CU3035	Chip C.	C1608JB1H102KTA		C387	CU3035	Chip C.	C1608JB1H102KTA	
C334	CS0366	Chip Tantal	TMCMA0G106MTR		C388	CS0049	Chip Tantal	TMCSA1C105MTR	
C335	CU3047	Chip C.	C1608JB1H103KTA		C389	CU3035	Chip C.	C1608JB1H102KTA	
C336	CS0366	Chip Tantal	TMCMA0G106MTR		C390	CU3059	Chip C.	C1608JF1E104ZTA	
C337	CU3047	Chip C.	C1608JB1H103KTA		C391	CS0049	Chip Tantal	TMCSA1C105MTR	
C338	CU3047	Chip C.	C1608JB1H103KTA		C392	CU3035	Chip C.	C1608JB1H102KTA	
C339	CU3047	Chip C.	C1608JB1H103KTA		C393	CS0369	Chip Tantal	TMCMD0J107MTR	
C340	CS0376	Chip Tantal	TMCMA0G226MTR		C394	CU8042	Chip C.	C2012JB1C104KTA	
C341	CU3007	Chip C.	C1608CH1H060CTA		C395	CS0369	Chip Tantal	TMCMD0J107MTR	
C342	CU3012	Chip C.	C1608CH1H120JTA		C396	CU3035	Chip C.	C1608JB1H102KTA	
C343	CU3059	Chip C.	C1608JF1E104ZTA		C397	CS0376	Chip Tantal	TMCMA0G226MTR	
C344	CU3059	Chip C.	C1608JF1E104ZTA		C398	CU3047	Chip C.	C1608JB1H103KTA	
C345	CU3059	Chip C.	C1608JF1E104ZTA		C399	CS0379	Chip Tantal	TMCMC1A476MTR	
C346	CU3059	Chip C.	C1608JF1E104ZTA		C400	CU3047	Chip C.	C1608JB1H103KTA	
C347	CU3021	Chip C.	C1608CH1H680JTA		C401	CU3035	Chip C.	C1608JB1H102KTA	
C348	CU3053	Chip C.	C1608JF1E333ZTA		C402	CU3047	Chip C.	C1608JB1H103KTA	
C349	CU3051	Chip C.	C1608JB1E223KTA		C403	CU3047	Chip C.	C1608JB1H103KTA	
C350	CU3047	Chip C.	C1608JB1H103KTA		C404	CU3047	Chip C.	C1608JB1H103KTA	
C351	CU3035	Chip C.	C1608JB1H102KTA		C405	CU3035	Chip C.	C1608JB1H102KTA	
C352	CU3023	Chip C.	C1608CH1H101JTA		C406	CU3047	Chip C.	C1608JB1H103KTA	
C353	CU3023	Chip C.	C1608CH1H101JTA		C407	CU3035	Chip C.	C1608JB1H102KTA	
					C408	CU3035	Chip C.	C1608JB1H102KTA	

IF unit

Ref No	Parts No.	Description	Parts Name	Ver.
C409	CS0366	Chip Tantal	TMCMA0G106MTR	
C410	CU8042	Chip C.	C2012JB1C104KTA	
C411	CU3051	Chip C.	C1608JB1E223KTA	
C412	CU3035	Chip C.	C1608JB1H102KTA	
C413	CU3027	Chip C.	C1608CH1H221JTA	
C414	CU3039	Chip C.	C1608JB1H222KTA	
C415	CU8042	Chip C.	C2012JB1C104KTA	
C416	CU3021	Chip C.	C1608CH1H680JTA	
C417	CS0063	Chip Tantal	TMCSA1V104MTR	
C418	CU3047	Chip C.	C1608JB1H103KTA	
C419	CS0366	Chip Tantal	TMCMA0G106MTR	
C420	CU3035	Chip C.	C1608JB1H102KTA	
C421	CS0049	Chip Tantal	TMCSA1C105MTR	
C422	CU3059	Chip C.	C1608JF1E104ZTA	
C423	CU3051	Chip C.	C1608JB1E223KTA	
C424	CU3051	Chip C.	C1608JB1E223KTA	
C425	CU3051	Chip C.	C1608JB1E223KTA	
C426	CU3051	Chip C.	C1608JB1E223KTA	
C427	CU3047	Chip C.	C1608JB1H103KTA	
C428	CU3031	Chip C.	C1608JB1H471KTA	E/EX
C430	CU3031	Chip C.	C1608JB1H471KTA	
C431	CU3035	Chip C.	C1608JB1H102KTA	
C432	CU3031	Chip C.	C1608JB1H471KTA	
C433	CU3031	Chip C.	C1608JB1H471KTA	
C434	CU3035	Chip C.	C1608JB1H102KTA	
C435	CU3031	Chip C.	C1608JB1H471KTA	
C436	CU3035	Chip C.	C1608JB1H102KTA	
C437	CU3035	Chip C.	C1608JB1H102KTA	
C438	CU3047	Chip C.	C1608JB1H103KTA	
C439	CU3035	Chip C.	C1608JB1H102KTA	
C440	CU3023	Chip C.	C1608CH1H101JTA	
C441	CU3023	Chip C.	C1608CH1H101JTA	
C442	CU3035	Chip C.	C1608JB1H102KTA	
C443	CU3051	Chip C.	C1608JB1E223KTA	
C444	CS0366	Chip Tantal	TMCMA0G106MTR	
C446	CS0049	Chip Tantal	TMCSA1C105MTR	
CN301	UE0240	Connector	AXN440C530P	
CN302	UP0282	Connector	DJG5IF-RF Flex.	
D301	XD0250	Diode	MA742TX	
D302	XD0250	Diode	MA742TX	
D303	XD0290	Diode	MA111-TX	
D304	XD0291	Diode	MA729-TX	
D305	XL0036	Diode	SML-310MTT86	
D306	XD0290	Diode	MA111-TX	
D308	XD0291	Diode	MA729-TX	
D310	XD0239	Diode	MA142WATX	
FL301	XC0010	Filter	CFUM455F	
FL302	XC0010	Filter	CFUM455F	
IC301	XA0343	IC	MC3372VM-EL	
IC302	XA0223	IC	TK10930VTL	
IC303	XA0348	IC	TC4W53FU(TE12)	
IC304	XA0345	IC	LC75366M-TLM	
IC305	XA0349	IC	TA75W01FU(TE12L)	
IC306	XA0349	IC	TA75W01FU(TE12L)	
IC307	XA0210	IC	NJM2070MT1	

IF unit

Ref No	Parts No.	Description	Parts Name	Ver.
IC308	XA0341	IC	RH5RH651A-T1	
IC309	XA0332	IC	TA75S01F(TE85L)	
IC310	XA0342	IC	NJM2100V-TE1	
IC311	XA0246	IC	BU4094BFT1	
JK301	UJ0022	Jack	HSJ1102-01-540	
JK302	UJ0019	Jack	HSJ1493-01-010	
L301	QC0086	Coil	NL322522T101J	
Q301	XT0088	Transistor	2SA1213YTE12L	
Q302	XU0172	Transistor	XP1501-TX	
Q303	XT0135	Transistor	2SD2216R-TX	
Q304	XU0062	Transistor	UN9111TX	
Q306	XT0135	Transistor	2SD2216R-TX	
Q307	XE0019	Transistor	2SJ144YTE85R	
Q308	XU0062	Transistor	UN9111TX	
Q309	XT0135	Transistor	2SD2216R-TX	
Q310	XU0062	Transistor	UN9111TX	
Q312	XU0063	Transistor	UN9211TX	
Q313	XT0135	Transistor	2SD2216R-TX	
Q315	XT0135	Transistor	2SD2216R-TX	
Q316	XU0062	Transistor	UN9111TX	
Q317	XT0135	Transistor	2SD2216R-TX	
Q318	XT0088	Transistor	2SA1213YTE12L	
Q319	XU0172	Transistor	XP1501-TX	
Q320	XU0063	Transistor	UN9211TX	
Q321	XU0063	Transistor	UN9211TX	
Q322	XT0135	Transistor	2SD2216R-TX	
Q323	XU0099	Transistor	UN9216R-TX	
Q423	XU0062	Transistor	UN9111TX	E/EH
Q326	XU0171	Transistor	XP1111-TX	
Q327	XU0062	Transistor	UN9111TX	
Q328	XU0171	Transistor	XP1111-TX	
Q329	XU0171	Transistor	XP1111-TX	
R301	RK0114	Chip R.	ERJ6GEYJ010V	
R302	RK3058	Chip R.	ERJ3GSYJ473V	
R303	RK3040	Chip R.	ERJ3GSYJ152V	
R304	RK3055	Chip R.	ERJ3GSYJ273V	
R305	RK3042	Chip R.	ERJ3GSYJ222V	
R306	RK3055	Chip R.	ERJ3GSYJ273V	
R307	RK3047	Chip R.	ERJ3GSYJ562V	
R308	RK3038	Chip R.	ERJ3GSYJ102V	
R309	RK3026	Chip R.	ERJ3GSYJ101V	
R310	RK3050	Chip R.	ERJ3GSYJ103V	
R311	RK3041	Chip R.	ERJ3GSYJ182V	
R312	RK3058	Chip R.	ERJ3GSYJ473V	
R313	RK3042	Chip R.	ERJ3GSYJ222V	
R314	RK3062	Chip R.	ERJ3GSYJ104V	
R315	RK3038	Chip R.	ERJ3GSYJ102V	
R316	RK3066	Chip R.	ERJ3GSYJ224V	
R317	RK3046	Chip R.	ERJ3GSYJ472V	
R318	RK3038	Chip R.	ERJ3GSYJ102V	
R319	RK3050	Chip R.	ERJ3GSYJ103V	
R320	RK3050	Chip R.	ERJ3GSYJ103V	
R321	RK3056	Chip R.	ERJ3GSYJ333V	
R322	RK3042	Chip R.	ERJ3GSYJ222V	
R323	RK3038	Chip R.	ERJ3GSYJ102V	

IF unit				
Ref No	Parts No.	Description	Parts Name	Ver.
R324	RK3040	Chip R.	ERJ3GSYJ152V	
R326	RK3061	Chip R.	ERJ3GSYJ823V	
R328	RK3050	Chip R.	ERJ3GSYJ103V	
R329	RK3042	Chip R.	ERJ3GSYJ222V	
R330	RK3046	Chip R.	ERJ3GSYJ472V	
R331	RK3046	Chip R.	ERJ3GSYJ472V	
R332	RK3067	Chip R.	ERJ3GSYJ274V	
R333	RK3051	Chip R.	ERJ3GSYJ123V	
R334	RK3066	Chip R.	ERJ3GSYJ224V	
R335	RK3042	Chip R.	ERJ3GSYJ222V	
R336	RK3060	Chip R.	ERJ3GSYJ683V	
R338	RK3050	Chip R.	ERJ3GSYJ103V	
R339	RK3038	Chip R.	ERJ3GSYJ102V	
R340	RK3062	Chip R.	ERJ3GSYJ104V	
R341	RK3074	Chip R.	ERJ3GSYJ105V	
R342	RK3042	Chip R.	ERJ3GSYJ222V	
R343	RK3038	Chip R.	ERJ3GSYJ102V	
R344	RK3026	Chip R.	ERJ3GSYJ101V	
R345	RK3050	Chip R.	ERJ3GSYJ103V	
R346	RK3042	Chip R.	ERJ3GSYJ222V	
R347	RK3045	Chip R.	ERJ3GSYJ392V	
R348	RK3072	Chip R.	ERJ3GSYJ684V	
R349	RK3038	Chip R.	ERJ3GSYJ102V	
R350	RK3066	Chip R.	ERJ3GSYJ224V	
R351	RK3046	Chip R.	ERJ3GSYJ472V	
R352	RK3038	Chip R.	ERJ3GSYJ102V	
R353	RK3050	Chip R.	ERJ3GSYJ103V	
R354	RK3050	Chip R.	ERJ3GSYJ103V	
R355	RK3056	Chip R.	ERJ3GSYJ333V	
R356	RK3042	Chip R.	ERJ3GSYJ222V	
R357	RK3038	Chip R.	ERJ3GSYJ102V	
R358	RK3040	Chip R.	ERJ3GSYJ152V	
R360	RK3061	Chip R.	ERJ3GSYJ823V	
R362	RK3049	Chip R.	ERJ3GSYJ822V	
R364	RK3067	Chip R.	ERJ3GSYJ274V	
R365	RK3042	Chip R.	ERJ3GSYJ222V	
R366	RK3046	Chip R.	ERJ3GSYJ472V	
R367	RK3050	Chip R.	ERJ3GSYJ103V	
R368	RK3046	Chip R.	ERJ3GSYJ472V	
R369	RK3067	Chip R.	ERJ3GSYJ274V	
R370	RK3051	Chip R.	ERJ3GSYJ123V	
R371	RK3066	Chip R.	ERJ3GSYJ224V	
R372	RK3042	Chip R.	ERJ3GSYJ222V	
R373	RK3060	Chip R.	ERJ3GSYJ683V	
R375	RK3062	Chip R.	ERJ3GSYJ104V	
R376	RK3038	Chip R.	ERJ3GSYJ102V	
R377	RK3062	Chip R.	ERJ3GSYJ104V	
R378	RK3066	Chip R.	ERJ3GSYJ224V	
R379	RK3066	Chip R.	ERJ3GSYJ224V	
R380	RK3058	Chip R.	ERJ3GSYJ473V	
R381	RK3058	Chip R.	ERJ3GSYJ473V	
R382	RK3074	Chip R.	ERJ3GSYJ105V	
R383	RK3074	Chip R.	ERJ3GSYJ105V	
R384	RK3074	Chip R.	ERJ3GSYJ105V	

IF unit				
Ref No	Parts No.	Description	Parts Name	Ver.
R385	RK3074	Chip R.	ERJ3GSYJ105V	
R386	RK3050	Chip R.	ERJ3GSYJ103V	
R387	RK3050	Chip R.	ERJ3GSYJ103V	
R388	RK3042	Chip R.	ERJ3GSYJ222V	
R389	RK3058	Chip R.	ERJ3GSYJ473V	
R390	RK3046	Chip R.	ERJ3GSYJ472V	
R391	RK3030	Chip R.	ERJ3GSYJ221V	
R392	RK0114	Chip R.	ERJ6GEYJ010V	
R393	RK3058	Chip R.	ERJ3GSYJ473V	
R394	RK3058	Chip R.	ERJ3GSYJ473V	
R395	RK3056	Chip R.	ERJ3GSYJ333V	
R396	RK3052	Chip R.	ERJ3GSYJ153V	
R397	RK3043	Chip R.	ERJ3GSYJ272V	
R398	RK3050	Chip R.	ERJ3GSYJ103V	
R399	RK3050	Chip R.	ERJ3GSYJ103V	
R400	RK3014	Chip R.	ERJ3GSYJ100V	
R401	RK3052	Chip R.	ERJ3GSYJ153V	
R402	RK3051	Chip R.	ERJ3GSYJ123V	
R403	RK1018	Chip R.	ERJ8GEYJ101V	
R404	RK3050	Chip R.	ERJ3GSYJ103V	
R405	RK3058	Chip R.	ERJ3GSYJ473V	
R406	RK3058	Chip R.	ERJ3GSYJ473V	
R407	RK3060	Chip R.	ERJ3GSYJ683V	
R408	RK3023	Chip R.	ERJ3GSYJ560V	
R409	RK3041	Chip R.	ERJ3GSYJ182V	
R410	RK3066	Chip R.	ERJ3GSYJ224V	
R411	RK3030	Chip R.	ERJ3GSYJ221V	
R412	RK3058	Chip R.	ERJ3GSYJ473V	
R413	RK3046	Chip R.	ERJ3GSYJ472V	
R414	RK3063	Chip R.	ERJ3GSYJ124V	
R415	RK3056	Chip R.	ERJ3GSYJ333V	
R416	RK3061	Chip R.	ERJ3GSYJ823V	
R417	RK3069	Chip R.	ERJ3GSYJ394V	
R418	RK3034	Chip R.	ERJ3GSYJ471V	
R419	RK3056	Chip R.	ERJ3GSYJ333V	
R420	RK3056	Chip R.	ERJ3GSYJ333V	
R421	RK3058	Chip R.	ERJ3GSYJ473V	
R422	RK3050	Chip R.	ERJ3GSYJ103V	
R423	RK3066	Chip R.	ERJ3GSYJ224V	
R424	RK3066	Chip R.	ERJ3GSYJ224V	
R425	RK3056	Chip R.	ERJ3GSYJ333V	
R426	RK3056	Chip R.	ERJ3GSYJ333V	
R427	RK3056	Chip R.	ERJ3GSYJ333V	
R428	RK3038	Chip R.	ERJ3GSYJ102V	
R429	RK3056	Chip R.	ERJ3GSYJ333V	
R430	RK3059	Chip R.	ERJ3GSYJ563V	
R431	RK3058	Chip R.	ERJ3GSYJ473V	
R433	RK3058	Chip R.	ERJ3GSYJ473V	
R434	RK3057	Chip R.	ERJ3GSYJ393V	
R435	RK3059	Chip R.	ERJ3GSYJ563V	
R437	RK3074	Chip R.	ERJ3GSYJ105V	
R438	RK3050	Chip R.	ERJ3GSYJ103V	
R439	RK3050	Chip R.	ERJ3GSYJ103V	
R440	RK3058	Chip R.	ERJ3GSYJ473V	

CPU unit					CPU unit				
Ref	Parts No.	Description	Parts Name	Ver.	Ref	Parts No.	Description	Parts Name	Ver.
D513	XL0036	LED	SML-310MTT86		R526	RK3066	Chip R.	ERJ3GSYJ224V	
D514	XL0036	LED	SML-310MTT86		R527	RK3027	Chip R.	ERJ3GSYJ121V	
D515	XD0156	Diode	DTZ3.6BTT11		R528	RK3050	Chip R.	ERJ3GSYJ103V	
D516	XD0251	Diode	MA741WATX		R529	RK3066	Chip R.	ERJ3GSYJ224V	
D517	XD0291	Diode	MA729-TX		R530	RK3027	Chip R.	ERJ3GSYJ121V	
D518	XD0165	Diode	DTZ5.1BTT11		R531	RA0008	Chip R.	EXBV4V102JV	
IC501	XA0348	IC	TC4W53FU(TE12)		R532	RA0009	Chip R.	EXBV8V102JV	
IC502	XA0344	IC	LC73881M-TLM		R533	RA0009	Chip R.	EXBV8V102JV	
IC503	XA0355	IC	UPD16430AGF-3B9		R534	RK3054	Chip R.	ERJ3GSYJ223V	
IC504	XA0239	IC	AK2341		R535	RK3027	Chip R.	ERJ3GSYJ121V	
IC505	XA0348	IC	TC4W53FU(TE12)		R536	RK3061	Chip R.	ERJ3GSYJ823V	T
IC506	XA0356	IC	S-80730SL-AT-T2		R537	RK3055	Chip R.	ERJ3GSYJ273V	
IC507	XA0358	IC	S-81237SG-QE-T2		R538	RK3092	Chip R.	ERJ3EKF7502V	
IC508	XA0505	IC	HD6433877A35H		R540	RA0008	Chip R.	EXBV4V102JV	
IC509	XA0219	IC	RH5RH501AT1		R541	RK3058	Chip R.	ERJ3GSYJ473V	E
IC510	XA0356	IC	S-80730SL-AT-T2		R541	RK3061	Chip R.	ERJ3GSYJ823V	T
L501	QC0049	Coil	NL322522T221J		R542	RK3091	Chip R.	ERJ3EKF3902V	
Q501	XU0171	Transistor	XP1111-TX		R543	RK3054	Chip R.	ERJ3GSYJ223V	
Q502	XU0171	Transistor	XP1111-TX		R544	RK3074	Chip R.	ERJ3GSYJ105V	
Q503	XU0063	Transistor	UN9211TX		R545	RK3027	Chip R.	ERJ3GSYJ121V	
Q504	XU0063	Transistor	UN9211TX		R546	RA0009	Chip R.	EXBV8V102JV	
Q505	XT0140	Transistor	2SB1181-TLQ		R547	RK3074	Chip R.	ERJ3GSYJ105V	
Q506	XT0139	Transistor	2SA1774TLR		R548	RK3038	Chip R.	ERJ3GSYJ102V	
Q507	XT0135	Transistor	2SD2216R-TX		R549	RK3038	Chip R.	ERJ3GSYJ102V	
Q508	XT0088	Transistor	2SA1213YTE12L		R550	RA0009	Chip R.	EXBV8V102JV	
Q509	XU0172	Transistor	XP1501-TX		R551	RA0008	Chip R.	EXBV4V102JV	
Q510	XU0177	Transistor	XP1216-TX		R552	RA0009	Chip R.	EXBV8V102JV	
Q511	XU0047	Transistor	UMC3TR		R553	RA0009	Chip R.	EXBV8V102JV	
Q512	XU0047	Transistor	UMC3TR		R554	RK3055	Chip R.	ERJ3GSYJ273V	
R501	RA0009	Chip R.	EXBV8V102JV		R555	RA0008	Chip R.	EXBV4V102JV	
R502	RK3038	Chip R.	ERJ3GSYJ102V		R556	RK3031	Chip R.	ERJ3GSYJ271V	
R503	RK3038	Chip R.	ERJ3GSYJ102V		R557	RK3052	Chip R.	ERJ3GSYJ153V	
R504	RK3062	Chip R.	ERJ3GSYJ104V		R558	RK3052	Chip R.	ERJ3GSYJ153V	
R505	RK3046	Chip R.	ERJ3GSYJ472V		R559	RK3031	Chip R.	ERJ3GSYJ271V	
R506	RK3062	Chip R.	ERJ3GSYJ104V		R560	RA0009	Chip R.	EXBV8V102JV	
R507	RK3046	Chip R.	ERJ3GSYJ472V		R561	RK3038	Chip R.	ERJ3GSYJ102V	
R508	RK3050	Chip R.	ERJ3GSYJ103V		R562	RK3052	Chip R.	ERJ3GSYJ153V	
R509	RK3030	Chip R.	ERJ3GSYJ221V		R563	RK3031	Chip R.	ERJ3GSYJ271V	
R510	RK3054	Chip R.	ERJ3GSYJ223V		R564	RK3031	Chip R.	ERJ3GSYJ271V	
R511	RK3042	Chip R.	ERJ3GSYJ222V		R565	RA0009	Chip R.	EXBV8V102JV	
R512	RK3062	Chip R.	ERJ3GSYJ104V		R566	RA0010	Chip R.	EXBV8V472JV	
R513	RK3050	Chip R.	ERJ3GSYJ103V		R567	RA0010	Chip R.	EXBV8V472JV	
R514	RK3032	Chip R.	ERJ3GSYJ331V		R568	RK3038	Chip R.	ERJ3GSYJ102V	
R515	RK3031	Chip R.	ERJ3GSYJ271V		R569	RK3050	Chip R.	ERJ3GSYJ103V	
R516	RK3031	Chip R.	ERJ3GSYJ271V		R570	RK3089	Chip R.	ERJ3GSYJ912V	
R517	RK3032	Chip R.	ERJ3GSYJ331V		R571	RK3058	Chip R.	ERJ3GSYJ473V	T
R518	RK3058	Chip R.	ERJ3GSYJ473V		R571	RK3061	Chip R.	ERJ3GSYJ823V	E
R519	RA0008	Chip R.	EXBV4V102JV		R572	RK3058	Chip R.	ERJ3GSYJ473V	
R520	RK3050	Chip R.	ERJ3GSYJ103V		R573	RK3038	Chip R.	ERJ3GSYJ102V	
R521	RK3067	Chip R.	ERJ3GSYJ274V		R574	RK3055	Chip R.	ERJ3GSYJ273V	
R522	RK3089	Chip R.	ERJ3GSYJ912V		R575	RK3001	Chip R.	ERJ3GSY0R00V	
R523	RK3051	Chip R.	ERJ3GSYJ123V		R576	RK3038	Chip R.	ERJ3GSYJ102V	
R524	RK3047	Chip R.	ERJ3GSYJ562V		R577	RK3038	Chip R.	ERJ3GSYJ102V	
R525	RK3048	Chip R.	ERJ3GSYJ682V		R578	RK3038	Chip R.	ERJ3GSYJ102V	

CPU unit/SW unit					UVC0 unit				
Ref No	Parts No.	Description	Parts Name	Ver.	Ref No	Parts No.	Description	Parts Name	Ver.
R579	RA3038	Chip R.	ERJ3GSYJ102V				U VCO Unit		
R580	RA0009	Chip R.	EXBV8V102JV		C601	CU3031	Chip C.	C1608JB1H471KTA	
R581	RK3062	Chip R.	ERJ3GSYJ104V		C602	CU3001	Chip C.	C1608CH1H0R5CTA	
R582	RK3062	Chip R.	ERJ3GSYJ104V		C603	CU3010	Chip C.	C1608CH1H090CTA	
R583	RK3024	Chip R.	ERJ3GSYJ680V		C604	CU3010	Chip C.	C1608CH1H090CTA	
R584	RK3024	Chip R.	ERJ3GSYJ680V		C605	CU3031	Chip C.	C1608JB1H471KTA	
R585	RK3024	Chip R.	ERJ3GSYJ680V		C606	CU3005	Chip C.	C1608CH1H040CTA	
R586	RK3024	Chip R.	ERJ3GSYJ680V		C607	CU3029	Chip C.	C1608JB1H331KTA	
SW501	UU0019	Switch	SKQLLC		C608	CU3004	Chip C.	C1608CH1H030CTA	
SW502	UU0019	Switch	SKQLLC		C609	CU3031	Chip C.	C1608JB1H471KTA	
SW503	UU0019	Switch	SKQLLC		C610	CU3031	Chip C.	C1608JB1H471KTA	
SW504	UU0019	Switch	SKQLLC		C611	CU3011	Chip C.	C1608CH1H100CTA	
SW505	UU0018	Switch	S0P-112HST		C612	CU3004	Chip C.	C1608CH1H030CTA	
SW506	UU0018	Switch	S0P-112HST		C613	CU3031	Chip C.	C1608JB1H471KTA	
SW507	UU0018	Switch	S0P-112HST		D601	XD0293	Vari Cap	1SV257(TPH3)	
SW508	UU0018	Switch	S0P-112HST		D602	XD0293	Vari Cap	1SV257(TPH3)	
SW509	UU0018	Switch	S0P-112HST		D603	XD0293	Vari Cap	1SV257(TPH3)	
SW510	UU0018	Switch	S0P-112HST		D604	XD0292	Vari Cap	1SV255(TPH4)	
SW511	UU0018	Switch	S0P-112HST		D605	XD0293	Vari Cap	1SV257(TPH3)	
SW512	UU0018	Switch	S0P-112HST		L601	QKA25A	Coil	MR1.5 2.5T 0.4	
SW513	UU0018	Switch	S0P-112HST		L602	QA0120	Coil	657BN-1126GHR=P3	
SW514	UU0018	Switch	S0P-112HST		Q601	XT0137	Transistor	2SC5065-0(TE85L)	
SW515	UU0018	Switch	S0P-112HST		Q602	XT0137	Transistor	2SC5065-0(TE85L)	
SW516	UU0018	Switch	S0P-112HST		Q603	XT0138	Transistor	2SC5066-0(TE85L)	
SW517	UU0018	Switch	S0P-112HST		Q604	XU0063	Transistor	UN9211TX	
SW518	UU0018	Switch	S0P-112HST		Q605	XU0063	Transistor	UN9211TX	
SW519	UU0018	Switch	S0P-112HST		R601	RK3062	Chip R.	ERJ3GSYJ104V	
SW520	UU0018	Switch	S0P-112HST		R602	RK3050	Chip R.	ERJ3GSYJ103V	
SW521	UU0018	Switch	S0P-112HST		R603	RK3050	Chip R.	ERJ3GSYJ103V	
SW522	UU0018	Switch	S0P-112HST		R604	RK3050	Chip R.	ERJ3GSYJ103V	
	UP0280	P.C.B.	DJG5P.C.B.		R605	RK3037	Chip R.	ERJ3GSYJ821V	
X501	XB0020	Ceralock	CSAC4.19MGC-TC		R606	RK3030	Chip R.	ERJ3GSYJ221V	
X502	XQ0072	Ceralock	38C4.0000MHZ		R607	RK3042	Chip R.	ERJ3GSYJ222V	
X503	XQ0077	Ceralock	38C3.686400MHZ		R608	RK3050	Chip R.	ERJ3GSYJ103V	
MIC50	EY0014	Mic	EM-123A		R609	RK3042	Chip R.	ERJ3GSYJ222V	
W503	MRCL02A	Wire	#30R02-20-02		R610	RK3061	Chip R.	ERJ3GSYJ823V	
W504	MBCL02A	Wire	#30B02-20-02		R611	RK3050	Chip R.	ERJ3GSYJ103V	
	TL0016		SheetDJG5		R612	RK3037	Chip R.	ERJ3GSYJ821V	
	TN0003		Front shield DJG5			UT0030		0.6 pin	
	YX0004		Tape DJG5			TS0097		VCO Case DJG5	
	YX0004		Tape DJG5			TN0002		VCO Shield	
R587	RK3062	Chip R.	ERJ3GSYJ104V						
	UP0280D								
SW Unit									
SW591	UU0018	Switch	S0P-112HST						
SW592	UU0018	Switch	S0P-112HST						
CN501	UE0255	Connector	6027B-03Z003						

Mechanical Parts

Ref No	Parts No.	Description	Parts Name	Ver.
		Mechanical	Parts	
		Finished		
	DS0352		Specification Sheet (A)	E
	DS0363		Specification Sheet DJG5	T
	EA41	EA0041	Antenna EA41	
	EBP33N	EG0024		
	EDC63	EW0011		T
	EDC64	EW0012		E
	EDC62	EW0013		
	PR0237		FCC PART15 Seal	T
		Body		
	AF0020		02+3FeNi1	
	AV0003		P2+16FeBC	
	DP0101		LCD Panel DJG5	
	FG0178		Jack rubber DJG5	
	FG0179		Jack cap DJG5	
	FG0180		DC cap DJG5	
	FG0181		Dial cap DJG5	
	FM0100		Jack metal fixture DJG5	
	NK0042		Dial knob DJG5	
		Battery case		
	FG0203		Battery rubber DJG5	
	KD0031		Battery case DJG5	
	KF0030		Battery lid DJG5	
	PR0282		Caution label DJG5	
	SD0046		Battery spring A DJG5	
	SD0047		Battery spring B DJG5	
	SD0048		Battery spring C DJG5	
	SD0049		Battery spring D DJG5	
		Packing		
	HK0		Carton DJG5	
	HM0153A		Carton ,10 sets DR610	
	HP0028		Protection bag 5X165X280	
	HP0031		Protection bag 5X100X200	
	HU0097		Fixture 5sets DR610	
	PF0031		Quick manual DJG5	
	PH0009A		Registration DJG5T	T
	PK0059		DJG5T Schematic diagram	
	PS0226		Instruction card DJG5T	
	PT0004A		Lot number seal for box	
	HU0094			
	HU0096			
	HU0095			T

Ref No	Parts No.	Description	Parts Name	Ver.
		Front Unit		
	AP0004		P2+5FeCr	
	AX0001		OP2+4FeBC1	
	AX0002		OP2+5FeN1	
	DG0021		LCD light DJG5	
	EL0028		XH606	
	ES0011BZ		SU-36W0824	
	FG0173		PTT rubber DJG5	
	FG0174		I6 key rubber DJG5	
	FG0175		Power key DJG5	
	FG0176		VOL rubber DJG5	
	FG0177		V/U key DJG5	
	FG0182		LCD rubber A DJG5	
	FG0183		LCD rubber B DJG5	
	FG0184		ON AIR rubber DJG5	
	FG0218		Cushion G5	
	FM0098		Rear panel DJG5	
	FM0113		CPU earth DJG5	
	KZ0068Y		Front case DJG5	
W501	MKCLH2AA	Wire	#30K02-025-02	
W502	MNCL03AA	Wire	#30N02-030-02	
	ST0052		SP metal fittings DJG5	
	TS0099		CPU Shield DJG5	
	TZ0064		Panel sheet DJG5	
		Rear Unit		
	AB0012		S26+5FeCr	
	AK0001		OB2+4FeN3	
	AN0012		Dial nut DJI60	
	FM0112		BNC earth DJG5	
	KB0058		Rear case DJG5	
	TS0098		RF shield DJG5	
	UE0193		BNC antenna connector	
	FP0069			
		ChargeUnit		
	AF0020		02+3FeNi1	
	AX0001		OP2+4FeBC1	
	FP0093		Terminal frame DJG5	
	FP0094		Release knob DJG5	
	SC0008		Release spring DJG5	
	SD0045		Battery terminal DJF5	
	TS0100		Earth metal fittings DJG5	
	TS0109A		VCO earth DJG5	
	TS0110		Charge earth DJG5	

ADJUSTMENT

1) Required Test Equipment

1. Regulated Power Supply

Supply voltage: DC 13.8V
Current: 3A or more

2. Digital Multimeter

Voltage range: FS =20V or so
Input resistance: High Impedance

3. Oscilloscope

Measurable frequency: Audio Frequency

4. Audio Dummy Load

Impedance: 8 ohm
Dissipation: 1W or more
Jack: 3.5 mm

5. SSG

Output frequency: 1GHz or more
Output level: -20dB/0.1 uV to 120dB/1V
Modulation: AM/FM

6. Spectrum Analyzer

Measuring range: Up to 2GHz or more

7. Power Meter

Measurable frequency: Up to 500MHz
Impedance: 50 ohm, unbalanced
Measuring range: -10W

10. Distortion Meter/SINAD Meter

Measurable frequency: 1kHz
Input level: Up to 40dB
Distortion level: 1 % ~1 00%

11. Frequency Counter

Measurable frequency: Up to 500MHz
Measurements stability: +/-0.1 ppm or so

12. Linear Detector

Measurable frequency: Up to 500MHz
Characteristics: Flat
CN: 60dB or more

Note

1. Standard Modulation: 1kHz +/- 3.5kHz/DEV
2. Reference Sensitivity: 12dB SINAD
3. Attach the fuse to the RF test equipment.
4. All SSG output is indicated by EMF.

8. Audio Voltmeter

Measurable frequency: ~100kHz
Sensitivity: 1mV~10V

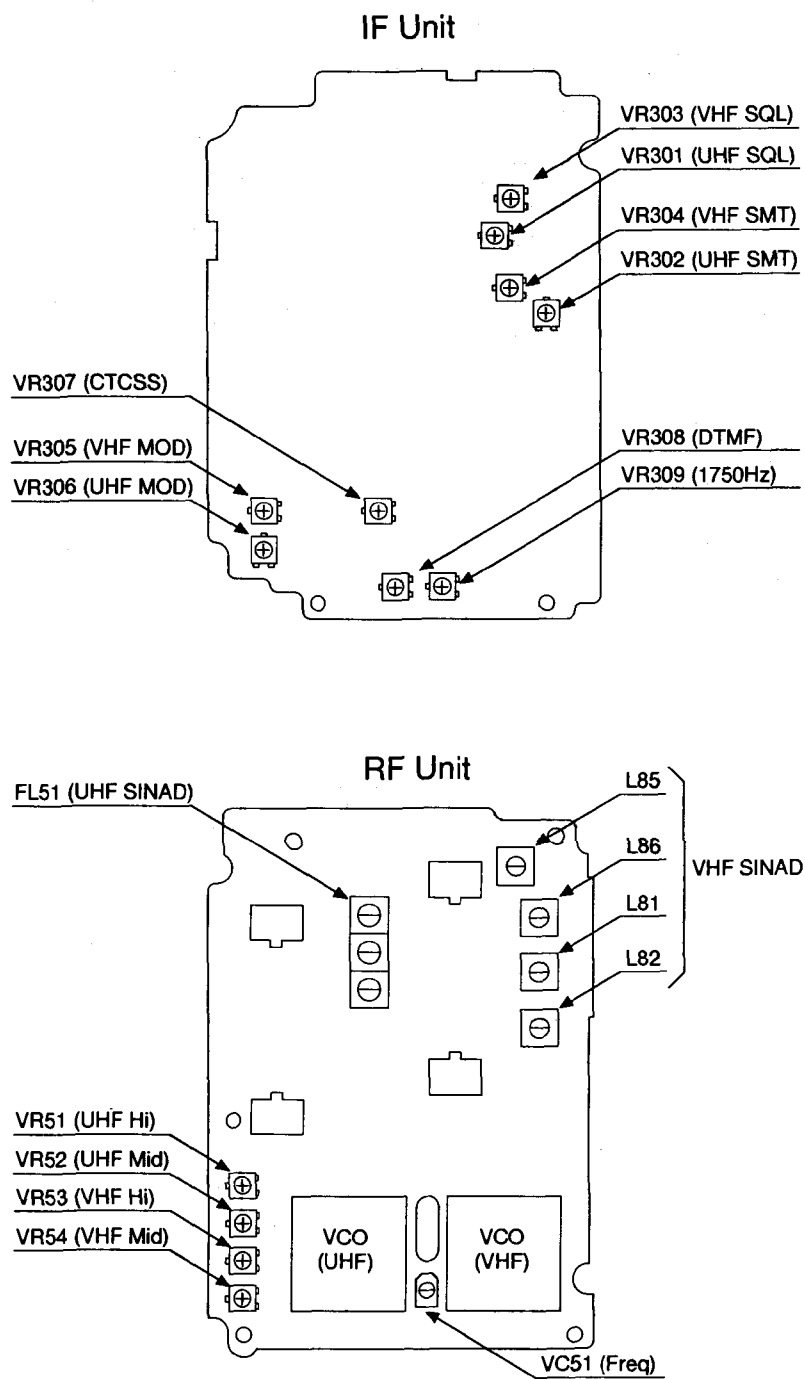
9. Audio Generator

Output frequency: 67Hz~10kHz
Output impedance: 600 ohm , unbalanced

2) Adjustment for DJ-G5TIE

Item	Condition	TX/RX	Measurement		Adjustment			Specifications
			Equipment	Unit	Unit	Pans	Method	
Reference Voltage	L band f=145.05MHz	RX	Digital Multimeter	V-VCO P/D	V-VCO	L701	3.7V	3.7V+/-0.1V
	R band f=435.05MHz	RX	Digital Multimeter	U-VCO P/D	U-VCO	L601	1.2V	1.2V+/-0.1V
Reference Frequency	R band f=435.05MHz (E) f=445.05MHz (T)	TX Low	Freq. Counter Power Meter		RF	VC51	435.05MHz (E) 445.05MHz (T)	+/-50Hz
Sensitivity	L band f=144.95MHzSSG out: -10dBu	RX	SSG Dist. Meter		RF	L81L82	Turn the coils to the max.	SINAD is12dBor more
S Meter	L band f=144.95MHz Mod: 3.5kHz/dev SSG out: 3dBu	RX	SSG	S Meter	IF	VR304	3digits should be turned ON.	
	R band f=434.95MHz Mod: 3.5kHz/dev SSG out: 3dBu					VR302	3digits should be turned ON.	
HiPower 13.8VDC	f=435.05MHz (E) f=445.05MHz (T)	TX High	Power Meter		RF	VR51	5.0W	5.0W+/-0.1W
Mid Power		TX Mid				VR52	1.0W	1.0W+/-0.1W
Low Power		TX Low					Check	100-400mW
High Power 13.8VDC	f=145.05MHz	TX High	Power Meter		RF	VR53	5.0W	5.0W+/-0.1W
Mid Power		TX Mid				VR54	1.0W	1.0W+/-0.1W
Low Power		TX Low					Check	100-400mW
Deviation	f=435.05MHz (E) f=445.05MHz (T) Mod: 1kHz,50mV	TX Low	Linear Det Oscilloscope Power Meter		IF	VR306	4.5kHz/DEV	4.5kHz+/-0.1kHz/DEV
	f=145.05MHz Mod: 1kHz,50mV					VR305	4.5kHz/DEV	4.5kHz+/-0.1kHz/DEV
DTMF	f=145.05MHz Push1"key"					VR308	3.1kHz/DEV	3.1kHz+/-0.1kHz/DEV
Subaudible Tone	f=145.05MHz 88.5Hz					VR307	800Hz/DEV	800Hz+/-50Hz/DEV
Tone Burst	f=145.05MHz PushPTT2"key"					VR309	3.0kHz/DEV	3.0kHz+/-0.1kHz/DEV

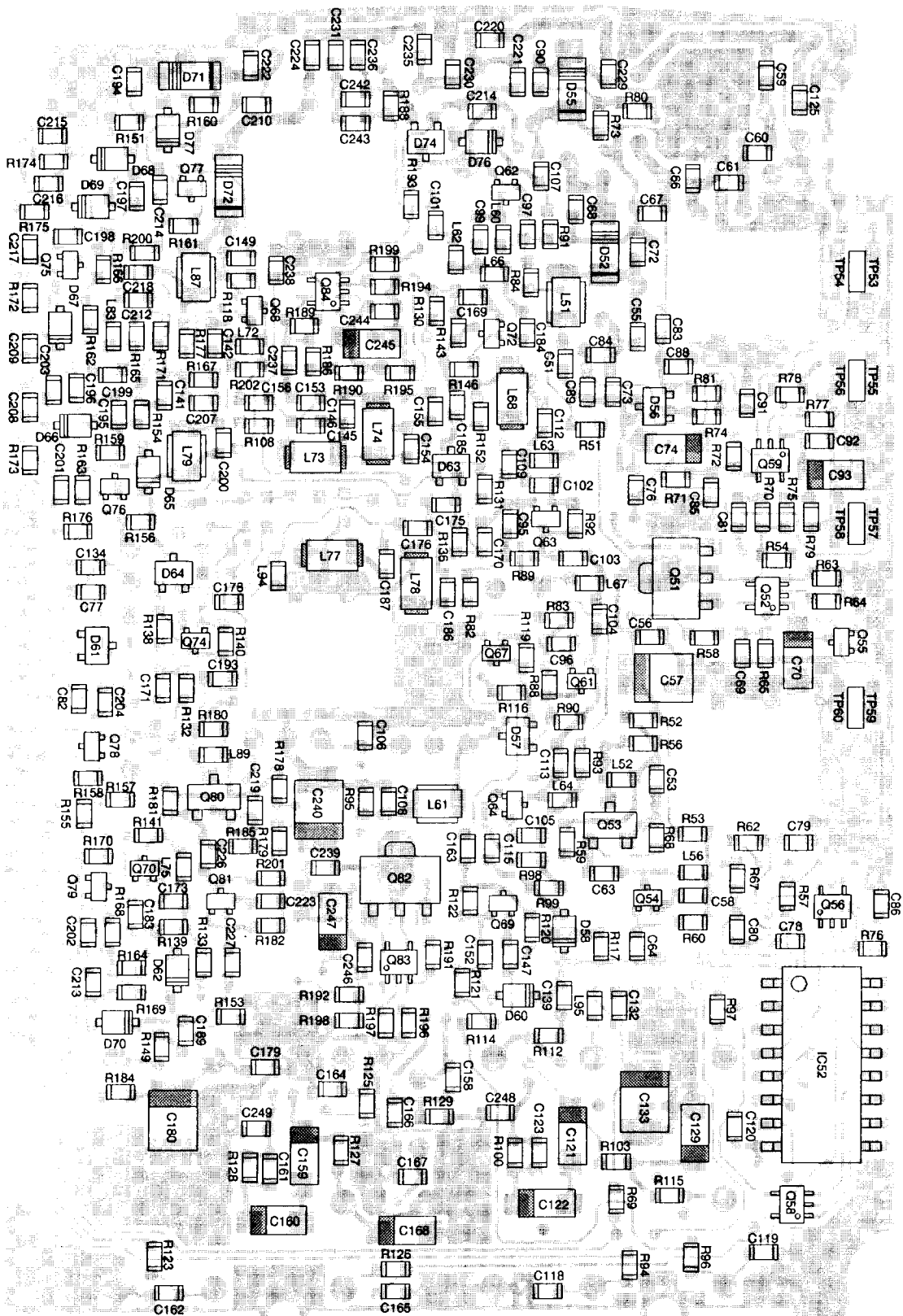
3) Adjustment Points



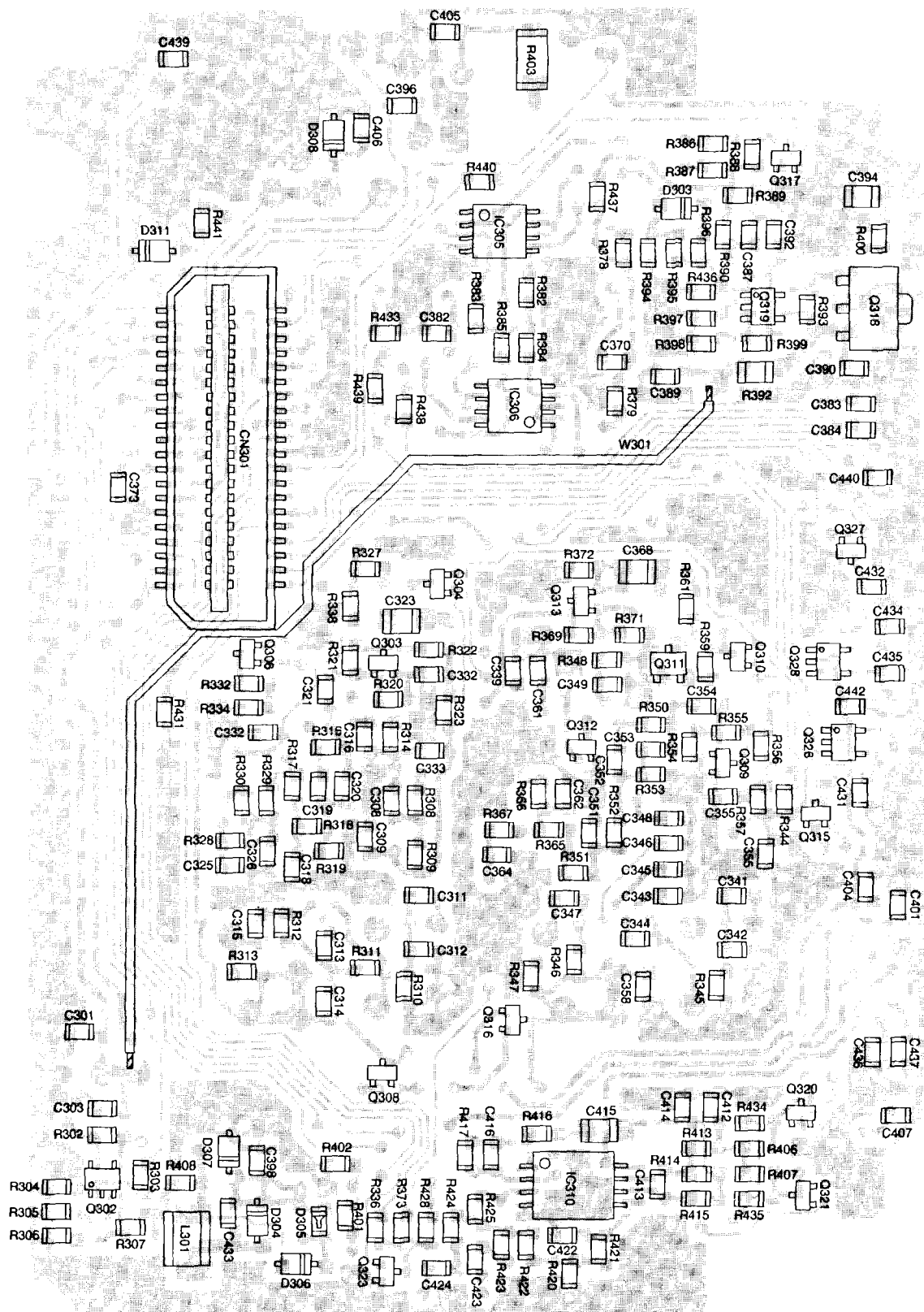
1) RF Unit Side A



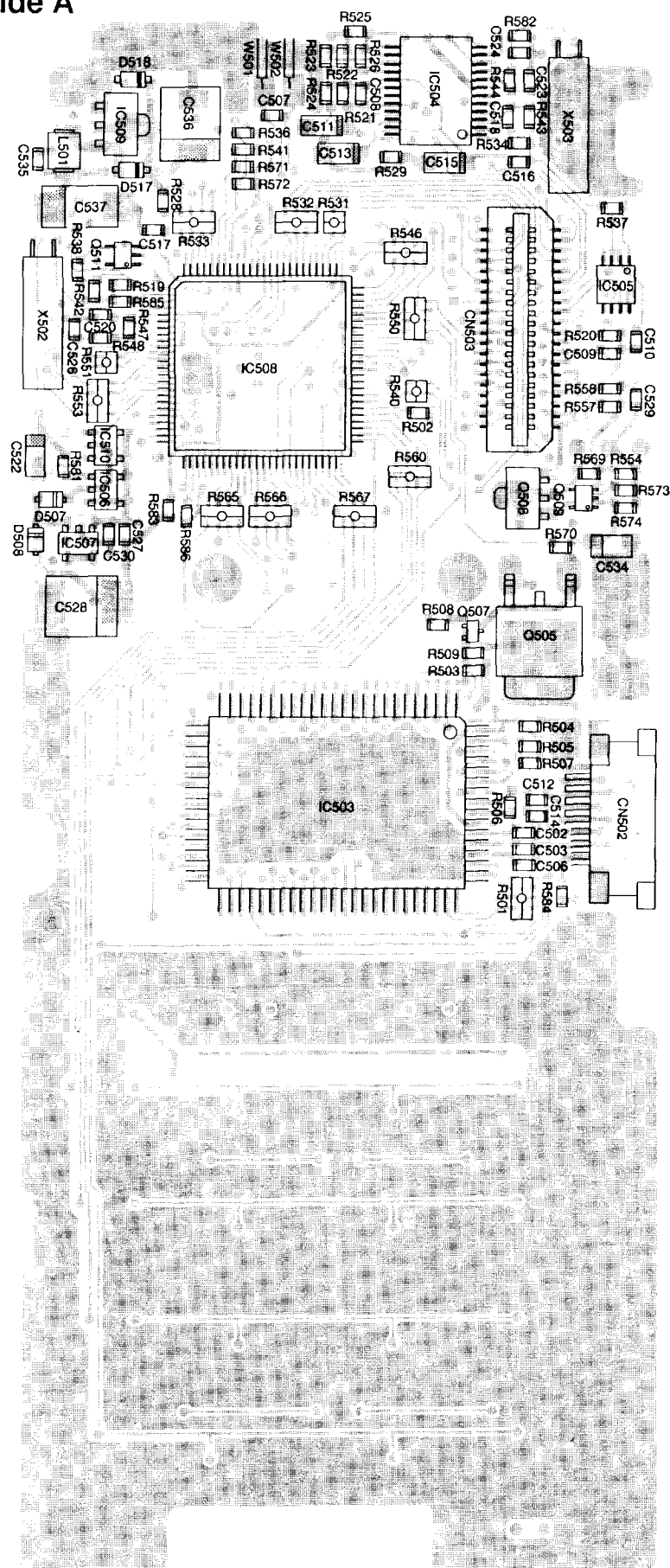
2) RF Unit Side B



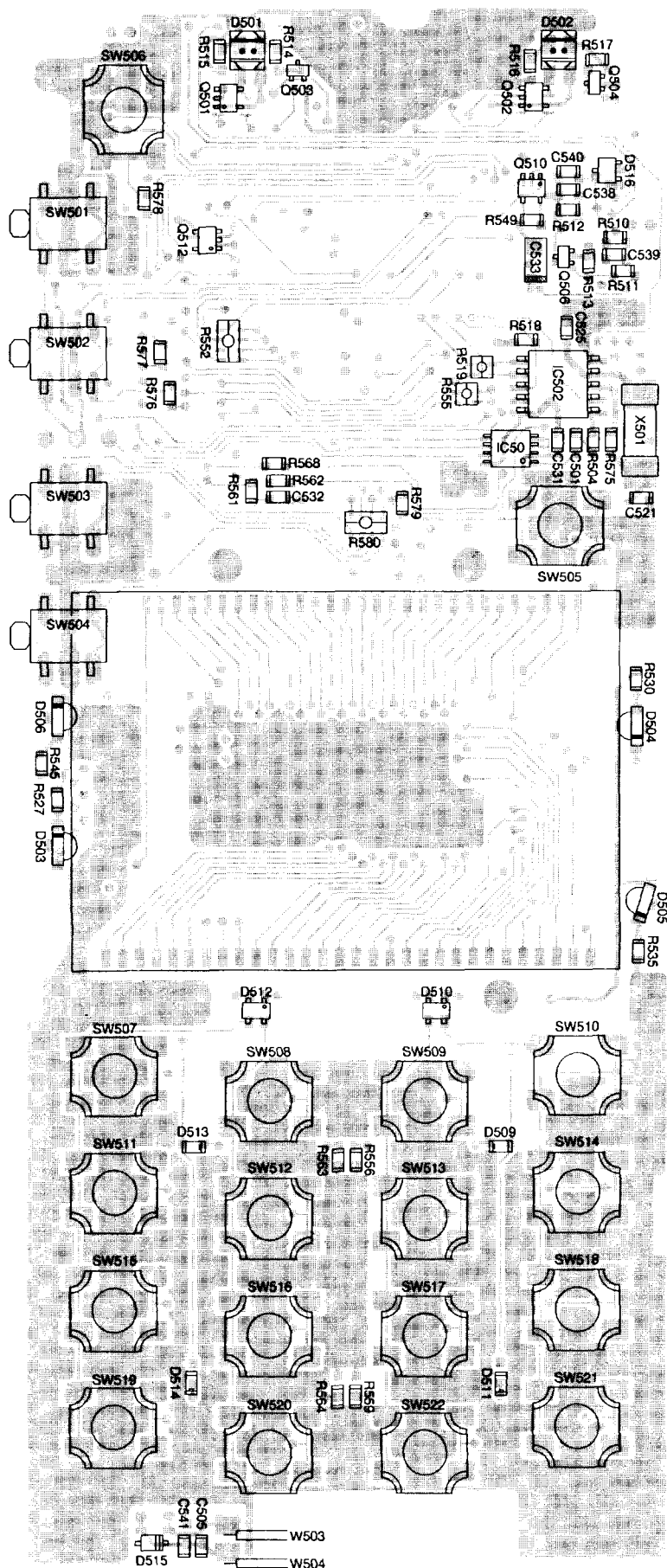
4) IF Unit Side B



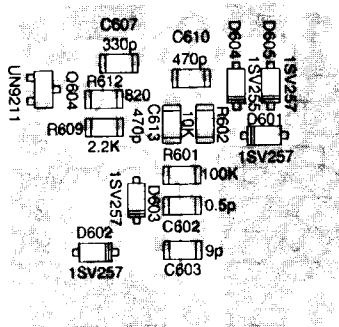
5) CPU Unit Side A



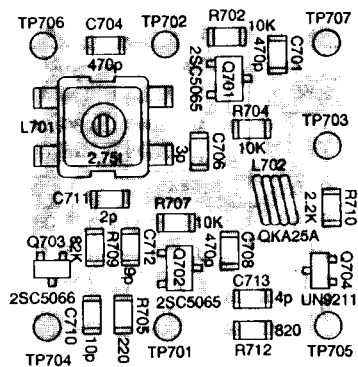
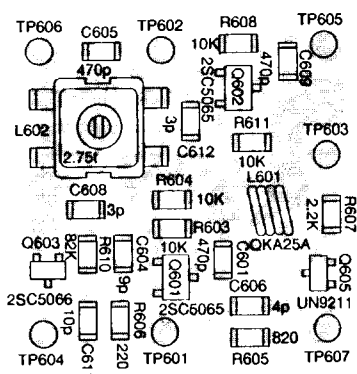
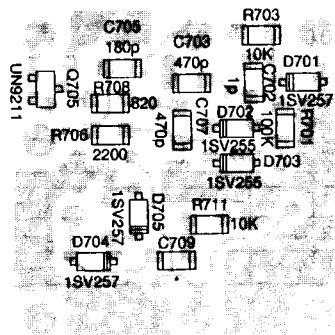
6) CPU Unit Side B



7) UVCO Unit



8) VVCO Unit



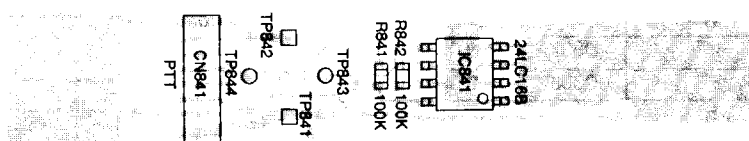
9) PTT Unit Side A

UU0026

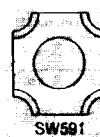
UU0026



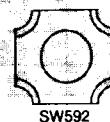
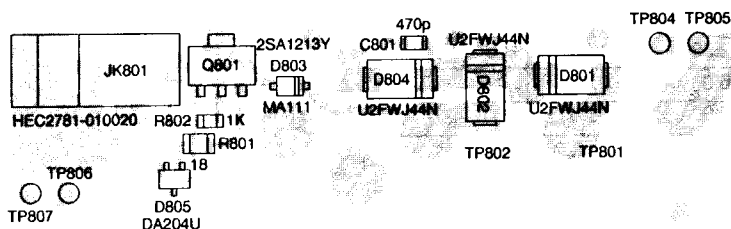
10) PTT Unit Side B



12) SW Unit Side A



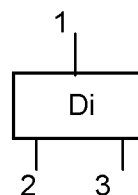
11) CHARGE Unit



VOLTAGE TABLE

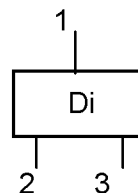
1) Diode

	1	2	3	Note
D51	0	3.57	3.57	UHF LOW TX
D53	0	3.57	3.57	VHF LOW TX
D56	0	0.03	0.03	UHF LOW TX
D57	1.21	1.85	0	R:433.00MHz
D59	3.36	0	4.14	VHF TX
D61	2.66	0	3.47	L:433.00MHz
D64	1.04	1.86	0	L:433.00MHz
D63	2	0	2.76	L:144,00MHz
D74	0	0.91	0.91	VHF LOW TX



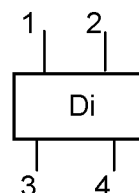
	Anode	Cathode	Note
D52	1.69	0.84	UHF TX
D55	0.84	0	UHF TX
D58	2.57	1.82	R:430M RX
D60	2.65	1.9	R:140M RX
D62	1.89	1.15	L:430M RX
D65	1.84	1.1	L:140M RX
D66	0	3.44	L: 145.00MHz when receiving
D67	0	3.41	L: 145.00MHz when receiving
D68	0	3.43	L: 145.00MHz when receiving
D69	0	3.43	L: 145.00MHz when receiving
D70	2.65	1.89	L:140M RX
D71	0	0.85	VHF TX
D72	1.7	0.85	VHF TX
D76	0	0.76	R:140M RX
D77	0	0.75	L:140M RX

	1	2	3	Note
D301	1.98	0	2.14	
D302	1.95	0	2.18	
D310	0.76	0.2	0.2	L:UHF,R:UHF



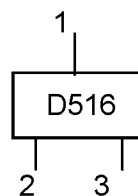
	Anode	Cathode	Note		Anode	Cathode	Note
D303	3.44	3.42		D307	8.03	3.18	
D304	3.19	8.03		D308	0	0	
D305	8.03	6.44					
D306	3.24	6.44					

	1	2	3	4	Note
D501	3.45	3.39	2.23	1.41	L SQL:OFF
D502	3.46	3.38	2.29	1.39	R SQL:OFF
D510	0	0	0	0	
D512	0	0	0	0	



	Anode	Cathode	Note		Anode	Cathode	Note
D503	3.54	1.51	LAMP:ON	D511	3.54	1.54	LAMP:ON
D504	3.54	2.07	LAMP:ON	D513	3.54	1.53	LAMP:ON
D505	3.54	1.5	LAMP:ON	D514	3.54	1.53	LAMP:ON
D506	3.54	2.06	LAMP:ON	D515	0.24	2.27	TX:ON
D507	3.76	3.73		D517	3.46	5.03	
D508	3.76	3.53		D518	0	5.03	
D509	3.54	1.58	LAMP:ON				

	1	2	3	Note
D516	0.24	0	3.46	PTT:ON
D516				

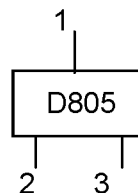


	Anode	Cathode	Note
D601	0	1.25	
D602	0	1.68	
D603	0	1.68	
D604	0	3.11	R:SUB
D605	0	3.11	R:SUB

	Anode	Cathode	Note
D701	0	1.22	
D702	0	4.34	
D703	0	4.34	
D704	0	2.2	L:SUB
D705	0	2.2	L:SUB

	Anode	Cathode
D801	13.57	13.57
D802	13.57	13.56
D803	13.56	13.55
D804	13.56	13.56

	1	2	3	Note
D805	13.38	13.26	13.56	PTT:ON



2)IC

IC301

PinNo.	Voltage	PinNo.	Voltage
1	3.31	9	1.13
2	2.64	10	0.63
3	2.58	11	1.29
4	3.47	12	0.00
5	2.48	13	0.18
6	2.47	14	0.00
7	2.53	15	0.00
8	3.46	16	1.70

IC305

PinNo.	Voltage	PinNo.	Voltage
1	2.47	5	2.48
2	2.48	6	2.49
3	2.45	7	2.51
4	0.00	8	5.00

IC302

PnNo.	Voltage	Note	PinNo.	Voltage	Note
1	3.26		13	1.57	AM
2	2.70		14	0.00	AM
3	2.80		15	0.00	
4	3.47		16	0.37	
5	1.21	AM	17	0.69	
6	1.20	AM	18	0.52	
7	1.22		19	1.60	
8	1.26		20	1.55	
9	1.26		21	0.00	
10	3.39		22	0.00	
11	3.45		23	0.00	
12	0.87		24	1.36	

IC303

PinNo.	Voltage	Note	PinNo.	Voltage	Note
1	0.86		5	3.39	AM
2	0.01		6	0.00	
3	0.00		7	0.86	
4	0.00		8	3.56	

IC304

PinNo.	Voltage	PinNo.	Voltage
1	2.50	11	2.51
2	0.00	12	0.00
3	2.50	13	2.48
4	2.50	14	2.50
5	2.50	15	2.40
6	2.50	16	2.36
7	2.45	17	2.49
8	5.00	18	0.00
9	0.00	19	0.00
10	0.00	20	0.00

IC306

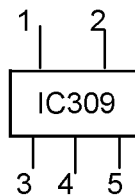
PinNo.	Voltage	PinNo.	Voltage
1	2.52	5	2.48
2	2.51	6	2.50
3	2.36	7	2.50
4	0.00	8	5.00

IC307 When receiving

PinNo.	Voltage	PinNo.	Voltage
1	0.0	5	0.0
2	0.0	6	2.7
3	0.6	7	6.2
4	0.0	8	0.0

IC309

Pin No.	Voltage
1	8.03
2	3.48
3	1.57
4	0
5	1.54



IC503

PinNo.	Voltage	PinNo.	Voltage
67	0	74	3.52
68	1.22	75	3.53
69	2.38	76	3.52
70	3.45	77	3.52
71	1.9	78	3.46
72	2.34	79	3.46
73	0	80	3.45

IC310

PinNo.	Voltage	PinNo.	Voltage
1	1.62	5	1.71
2	1.7	6	1.71
3	1.69	7	1.68
4	0	8	3.34

IC311

PtnNo.	Voltage	Note	PinNo.	Voltage	Note
1	0		9	0	
2	0		10	0	
3	0		11	0.11	R:ON
4	0.11		12	0.1	L:ON
5	0.11	USUB:ON	13	0.1	VMAIN:ON
6	0.11	UMAIN:O	14	0.1	VSUB:ON
7			15	3.57	
8	0		16	3.57	

IC501

PinNo.	Voltage	PinNo.	Voltage
1	0.95	5	3.45
2	0	5	1.16
3	0	7	0.98
4	0	8	3.53

IC502 DSQ:ON

PinNo.	Voltage	Pin No.	Voltage
1	1.71	6	3.5
2	0	7	0
3	1.72	8	0
4	1.33	9	0
5	0	10	3.51

IC504 TSQ..ON

PinNo.	Voltage	Pin No.	Voltage
1	1.72	13	1.48
2	2.16	14	3.4
3	3.41	15	0
4	1.25	16	1.88
5	1.72	17	1.72
6	1.72	18	1.72
7	3.45	19	1.72
8	1.68	20	2.22
9	1.73	21	1.72
10	0	22	1.72
11	0	23	1.72
12	0	24	2.33

IC505

PinNo.	Voltage	Pin No.	Voltage
1	1.17	5	3.45
2	0	5	1.16
3	0	7	0.98
4	0	8	3.53

IC506, IC507, IC510

	1	2	3	4	5
IC506	0	0	3.73	3.73	0
IC507	0	0	0	13.54	3.76
IC510	0	0	3.73	3.73	0

IC508 (CPU. PCB)

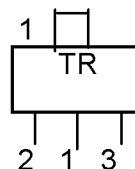
DC IN: I3.8V

PinNo.	Voltage	PinNo.	Voltage	PinNo.	Voltage	PinNo.	Voltage	PinNo.	Voltage
1	4.2	21	3.52	41	3.52	61	0.01	81	3.53
2	0	22	3.52	42	3.52	62	0.01	82	3.52
3	0	23	3.52	43	3.52	63	0.01	83	0.05
4		24	0	44	3.52	64	3.52	84	0.05
5	3.52	25	0	45	3.52	65	3.52	85	0
6	0	26	3.45	46	3.52	66	0.05	86	0
7	1.66	27	0	47	3.52	67	0.05	87	0
8	1.68	28	0.01	48	3.52	68	0	88	3.53
9	3.68	29	0.01	49	3.52	69	3.51	89	5.03
10	0	30	0.11	50	3.52	70	0	90	1.55
11	0	31	3.53	51	3.52	71	0	91	0
12	0	32	3.53	52	0	72	3.53	92	3.52
13	0	33	3.53	53	0	73	0.01	93	5.03
14	0	34	3.53	54	0	74	0.03	94	0
15	0	35	3.52	55	0	75	0.05	95	0
16	3.52	36	0	56	3.52	76	3.52	96	2
17	3.23	37	3.52	57	3.48	77	0	97	1.975
18	3.73	38	3.52	58	0	78	3.52	98	0.17
19	3.52	39	3.52	59	3.5	79	0	99	0.4
20	3.52	40	0	60	3.53	80	0	100	0

VOL: I (V/U), SQL: OPEN (V/U), BS: OFF

IC509

PinNo.	1	2	3
Voltage	5.04	0	3.39



IC52

PinNo.	Voltage	PinNo.	Voltage
1	0	9	0
2	0	10	0
3	0	11	0.09
4	3.57	12	0.09
5	3.57	13	3.57
6	3.57	14	3.57
7	3.57	15	3.57
8	0	16	3.57

IC841

PinNo.	Voltage	PinNo.	Voltage
1	0	5	3.49
2	0	6	0
3	0	7	0
4	0	8	3.52

L: 145.00MHz LOW POWER
R: 433.00MHz LOW POWER

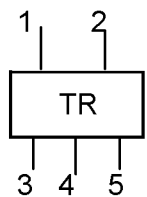
IC53

PinNo.	Voltage	PinNo.	Voltage	PinNo.	Voltage	PinNo.	Voltage
1	3.56	6	1.65	11	0	16	1.72
2	0	7	0	12	3.53	17	0
3	0	8	2.05	13	3.53	18	2
4	3.52	9	1.24	14	0	19	3.79
5	3.56	10	7.35	15	0	20	0

3) Transistor

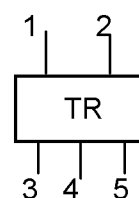
	Emitter	Base	Collector	Note		Emitter	Base	Collector	Note
Q51	13.57	13.05	4.02	UHF:TX	Q72	0.00	0.75	2.56	R:144
Q53	0.00	0.76	2.08	UHF:TX	Q73	0.00	0.72	2.17	L:RX
Q54	0.00	0.77	3.04	UHF:TX	Q74	0.00	0.73	1.85	L:430M
Q55	0.00	0.00	0.00	When locked	Q75	0.00	0.74	3.22	L:144M
Q60	0.00	0.72	1.60	R:RX	Q76	0.00	0.74	1.84	L:144M
Q61	0.00	0.71	1.84	R:430M	Q77	0.00	0.75	2.47	L:144M
Q62	0.00	0.76	2.98	R:430M	Q78	0.00	0.73	1.58	L:RX
Q63	0.00	0.75	3.01	R:430M	Q79	0.00	0.67	2.92	L:144M
Q64	0.00	0.72	3.14	R:430M	Q80	0.00	0.73	1.97	VHF:TX
Q65	7.35	7.97	8.03		Q81	0.00	0.74	2.72	VHF:TX
Q66	0.00	0.74	2.17	R:RX	Q82	13.57	13.07	4.12	VHF:TX
Q67	0.00	0.73	1.95	R:144M	Q85	0.00	0.00	0.00	When locked
Q68	0.00	0.76	3.04	R:144M	Q86	0.00	0.00	7.97	
Q69	0.00	0.69	2.91	R:144M					
Q70	0.00	0.75	2.28	R:144M					

	1	2	3	4	5	Note
Q52	13.05	4.11	1.53	1.01	1.60	UHF TX
Q56	3.56	3.56	0.09	3.57	0.09	ATT ON
Q58	3.57	3.57	0.09	3.57	0.09	L:VHF ,R:UHF
Q59	4.00	4.18	0.83	0.25	0.03	UHF TX
Q83	13.07	4.14	1.55	1.01	1.62	VHF TX
Q84	4.05	4.17	0.86	0.26	0.02	VHF TX

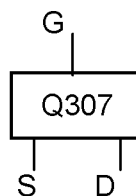


	Emitter	Base	Collector	Note		Emitter	Base	Collector	Note
Q301	13.51	12.97	3.57		Q316	3.58	0.53	3.47	L:RX
Q303	0.00	0.52	2.33	R:RX	Q317	0.00	0.59	0.00	FD
Q304	3.58	3.47	0.00	R:RX	Q318	13.58	13.00	6.23	AFPC:ON
Q306	0.80	1.38	3.47	R:RX	Q320	0.00	3.46	0.00	TX
Q308	3.58	0.53	3.47	R:RX	Q321	0.00	3.46	0.00	TX
Q309	0.00	0.53	2.33	L:RX	Q322	0.21	0.82	1.62	TX
Q310	3.57	3.47	3.47	L:RX	Q323	0.00	2.93	0.00	XBR
Q312	0.00	3.44	0.00	AM	Q327	3.58	0.00	3.47	UPRI:ON
Q313	0.80	1.38	3.47	L:RX					
Q315	1.20	0.73	3.45	L:RX					

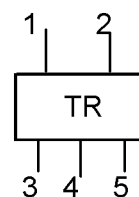
	1.00	2	3.00	4	5	Note
Q302	12.98	13.53	3.24	2.70	3.25	
Q319	13.01	13.58	3.39	2.91	3.52	When receiving
Q326	3.46	0.00	0.20	3.57	3.58	L:VHF,R:UHF
Q328	3.47	0.00	0.10	3.57	3.58	L:VHF,R:UHF
Q329	3.50	3.50	0.00	3.57	0.00	



	Drain	Gate	Source
Q307	1.03	3.52	0.02



	1	2	3	4	5	Note
Q501	3.45	0	0.28	3.46	3.46	VHF SQL:OFF
Q502	3.38	0	0.31	3.46	3.45	UHF SQL:OFF
Q509	13.01	3.52	1.66	1.12	1.74	
Q510	0	0	2.54	0	0	F.D:ON
Q511	0	13.54	0	3.24	13.47	
Q512	0	5.01	0	3.5	5.04	



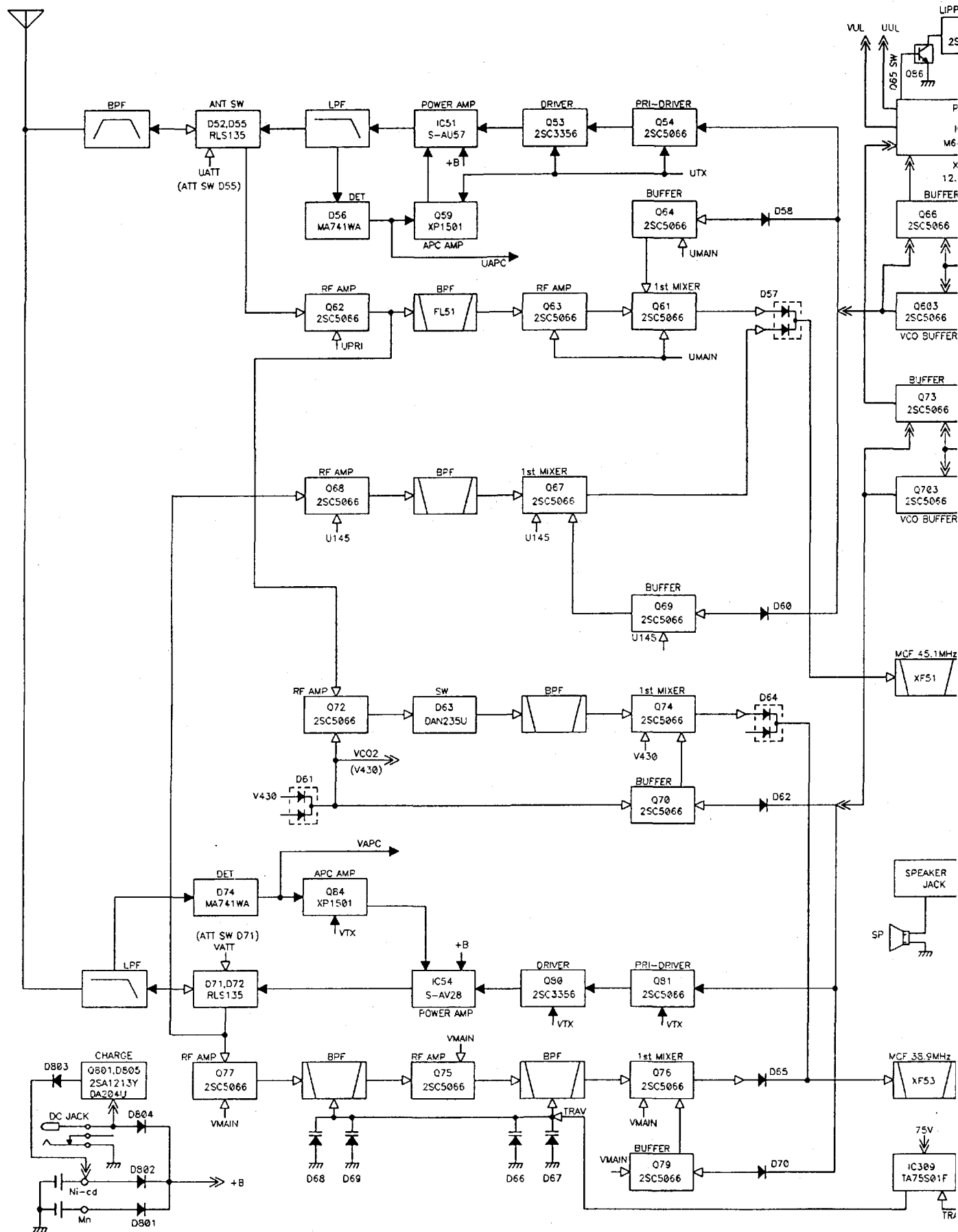
	Emitter	Base	Collector	Note		Emitter	Base	Collector	Note
Q503	0	3.48	0.05	VHF TX:Q506		3.51	2.83	3.44	TX:ON
Q504	0	3.48	0.05	UHF TX:Q507		2.96	3.52	12.92	LAMP:ON
Q505	13.55	12.88	3.51	LAMP:ON	Q508	13.61	13.01	3.52	

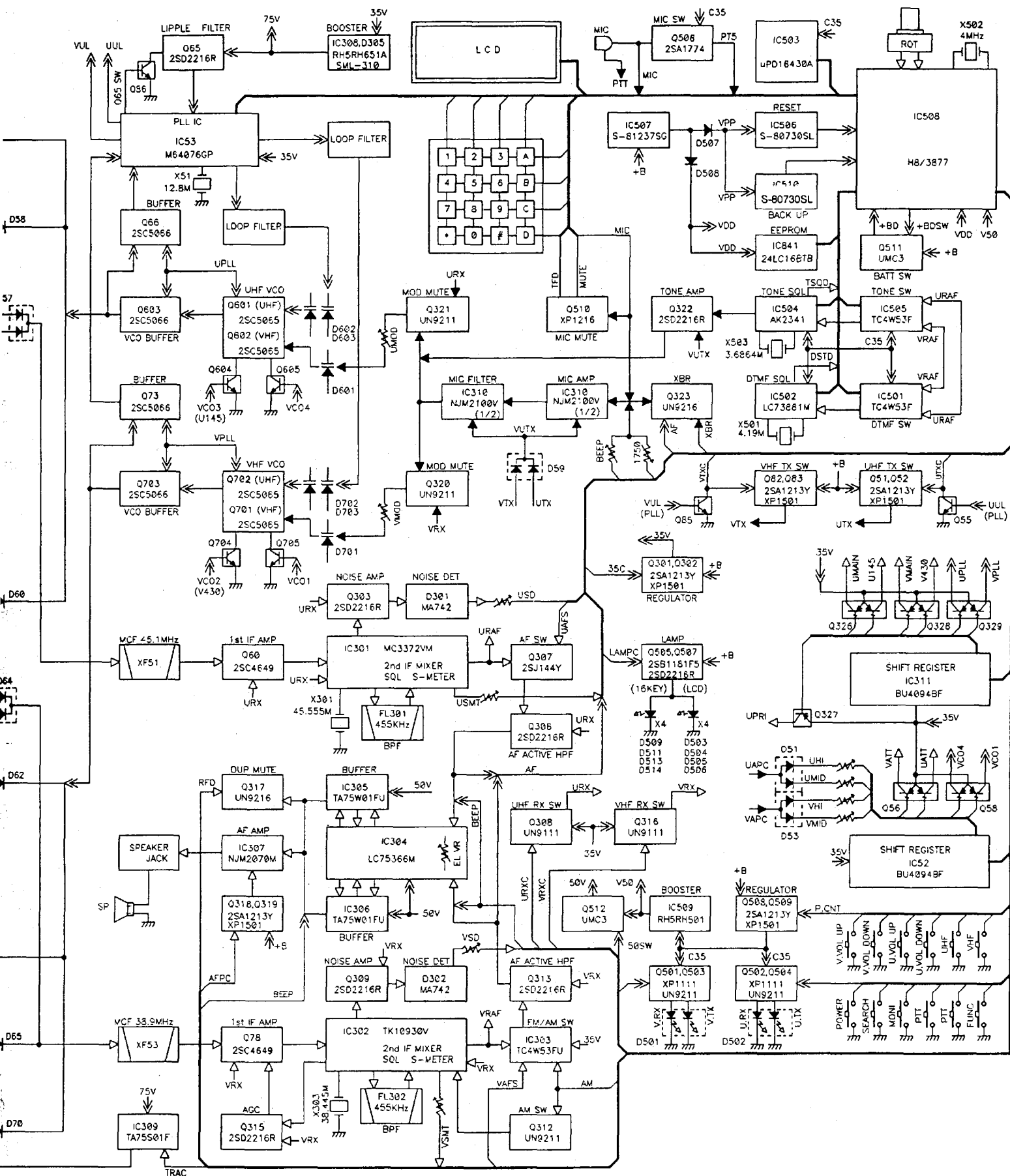
	Emitter	Base	Collector	Note
Q601	1.49	0.76	3.09	
Q602	1.48	0.86	3.06	R:SUB
Q603	0	0.74	2.48	
Q604	0	1.95	0.3	R:SUB
Q605	0	2.06	0.03	

	Emitter	Base	Collector	Note
Q701	1.48	0.97	3.04	
Q702	1.48	0.77	3.08	L:SUB
Q703	0	0.67	2.44	
Q704	0	1.62	0.04	L:SUB
Q705	0	2.56	0.03	

	Emitter	Base	Collector
Q801	13.76	13.38	13.36

BLOCK DIAGRAM

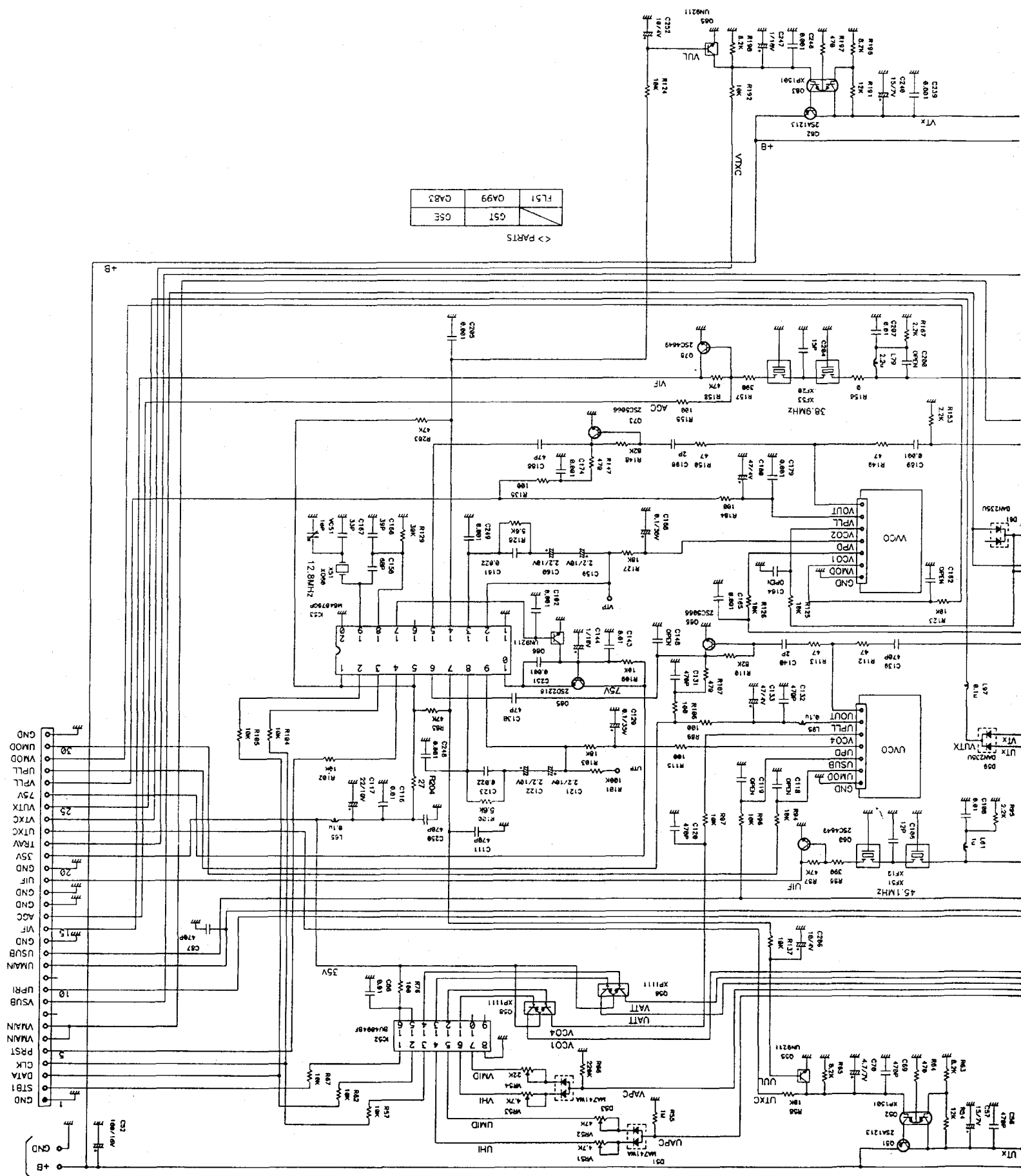




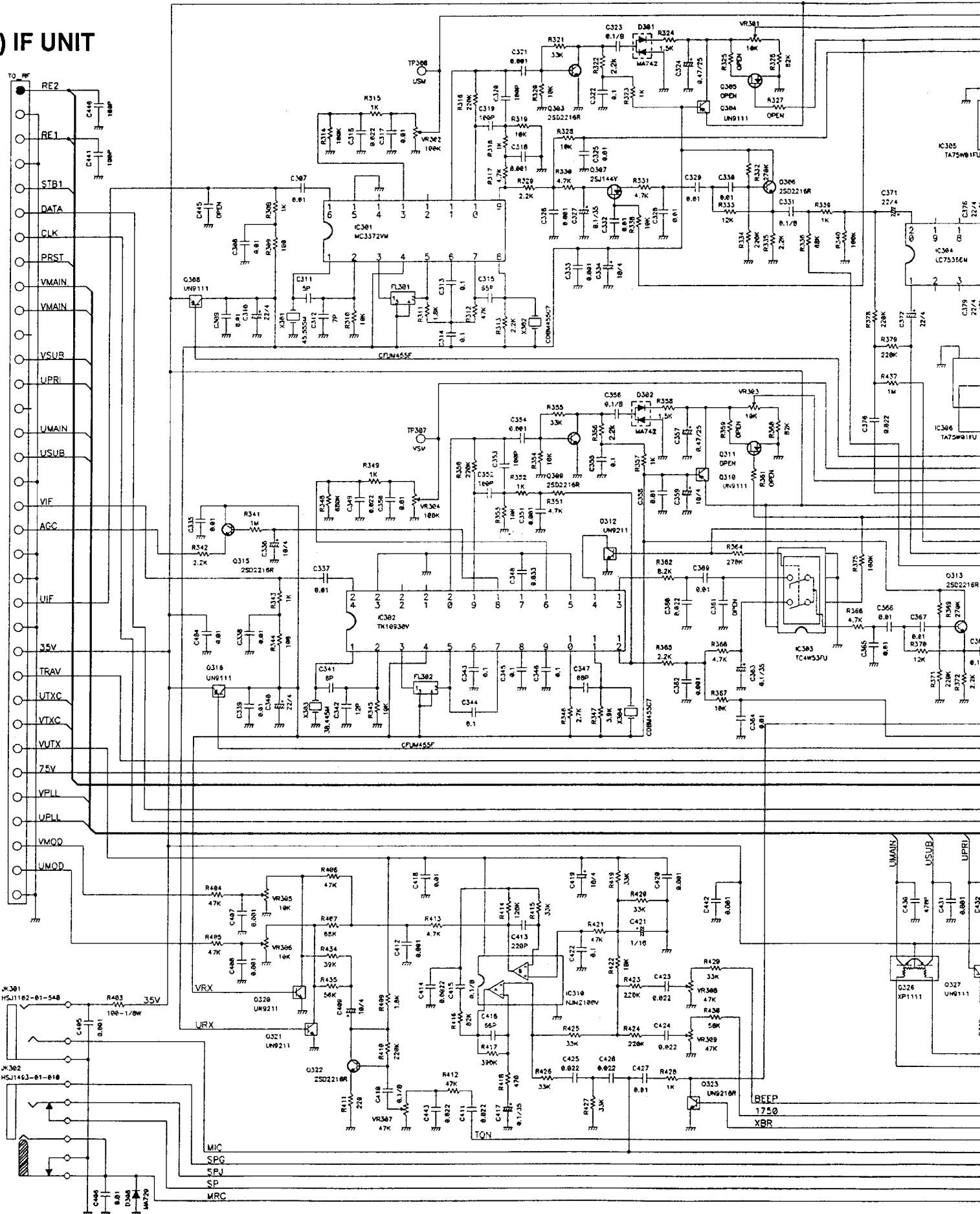
1) RF UNIT

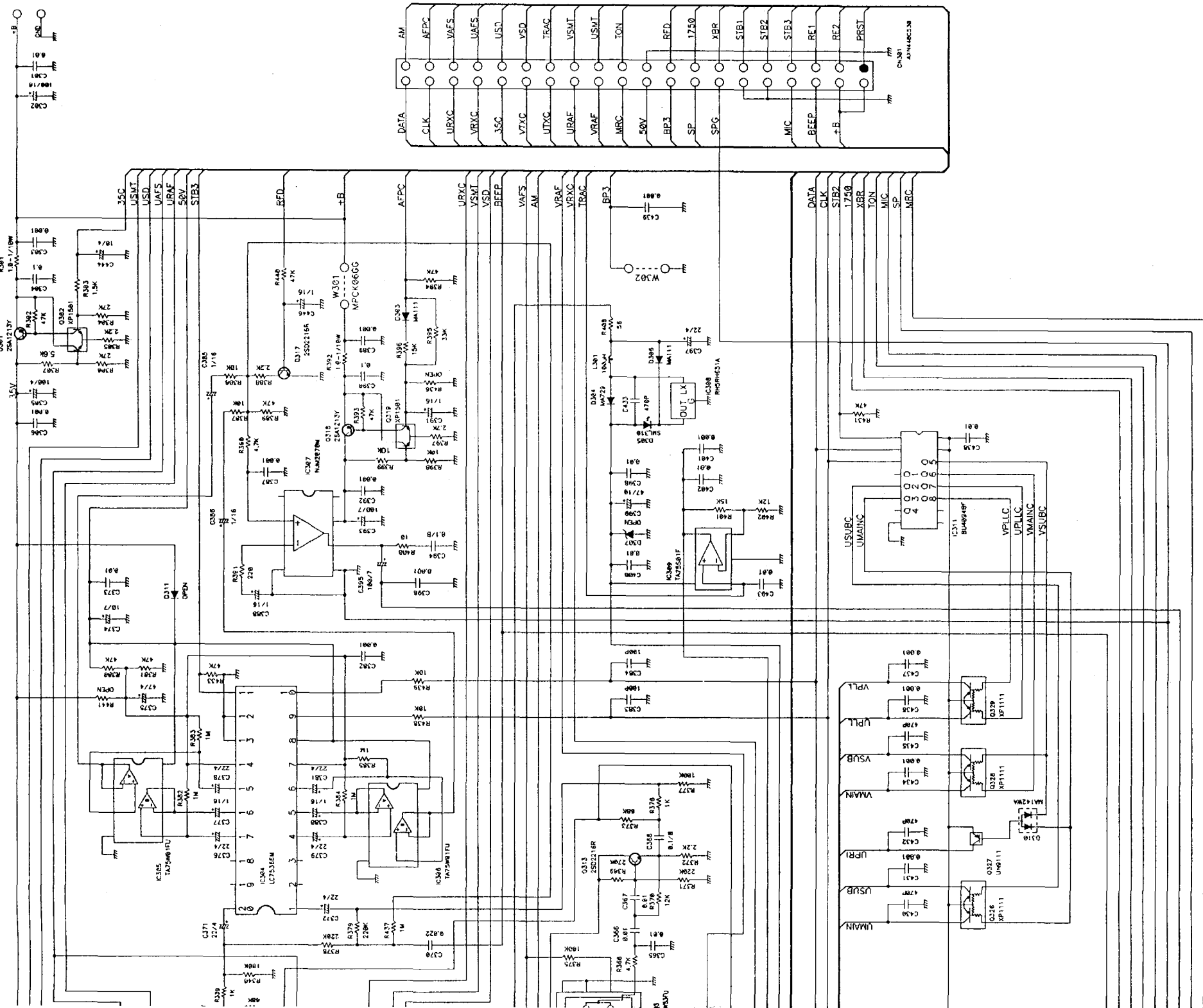


<< PARTS

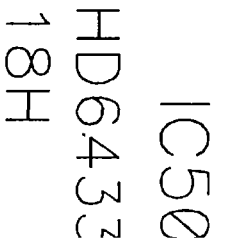


2) IF UNIT

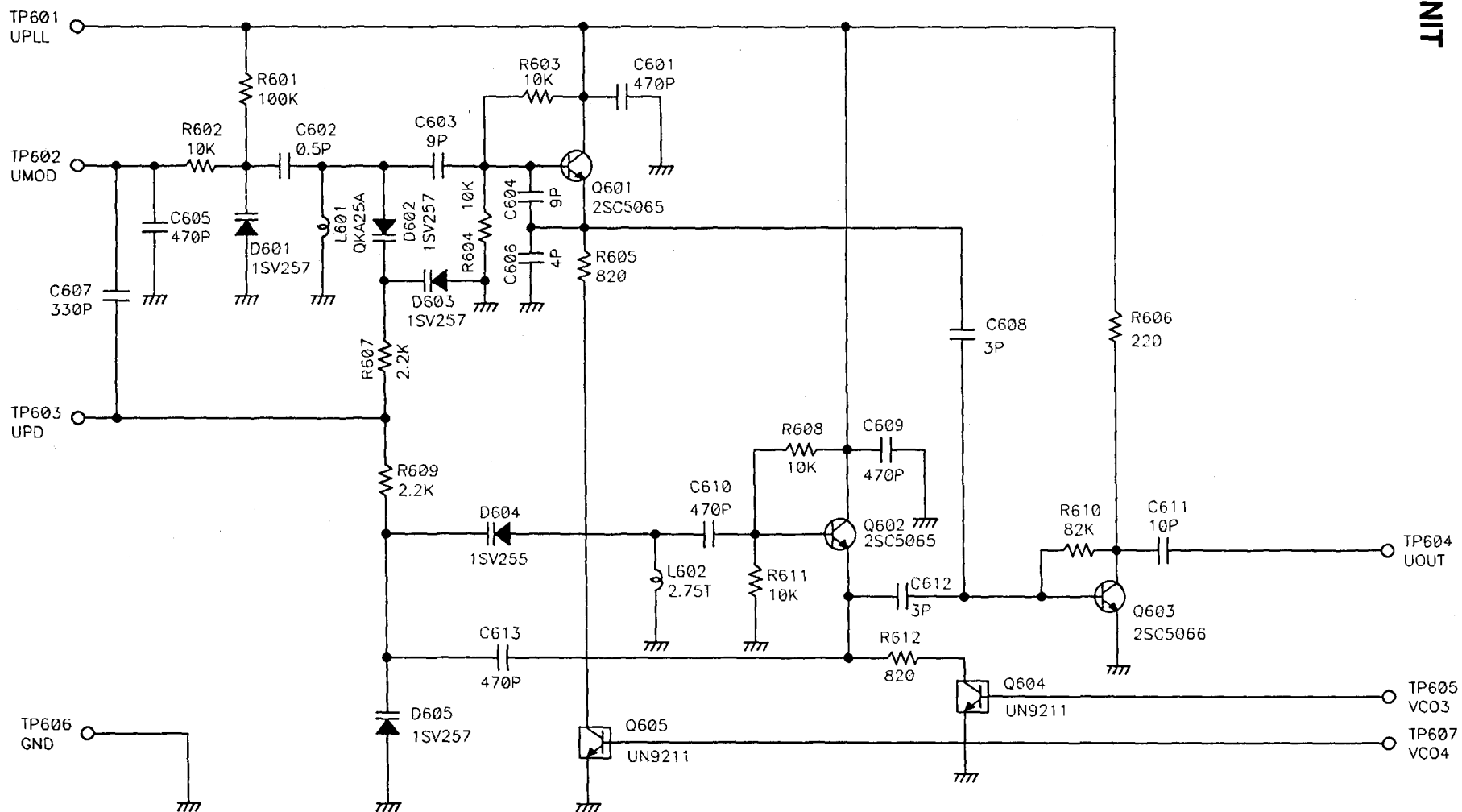




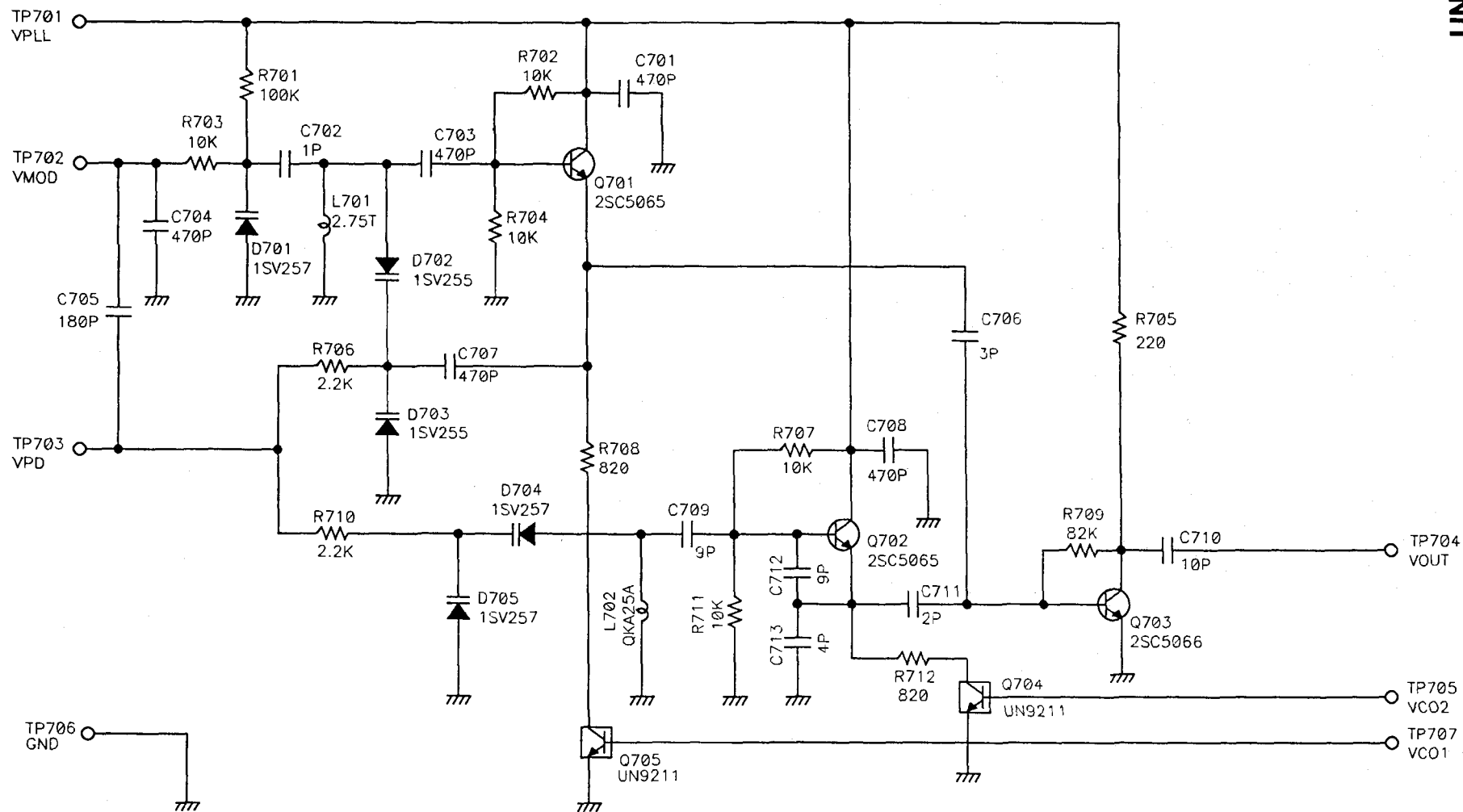
SEC25	25	2	3
SEC26	26	2	3



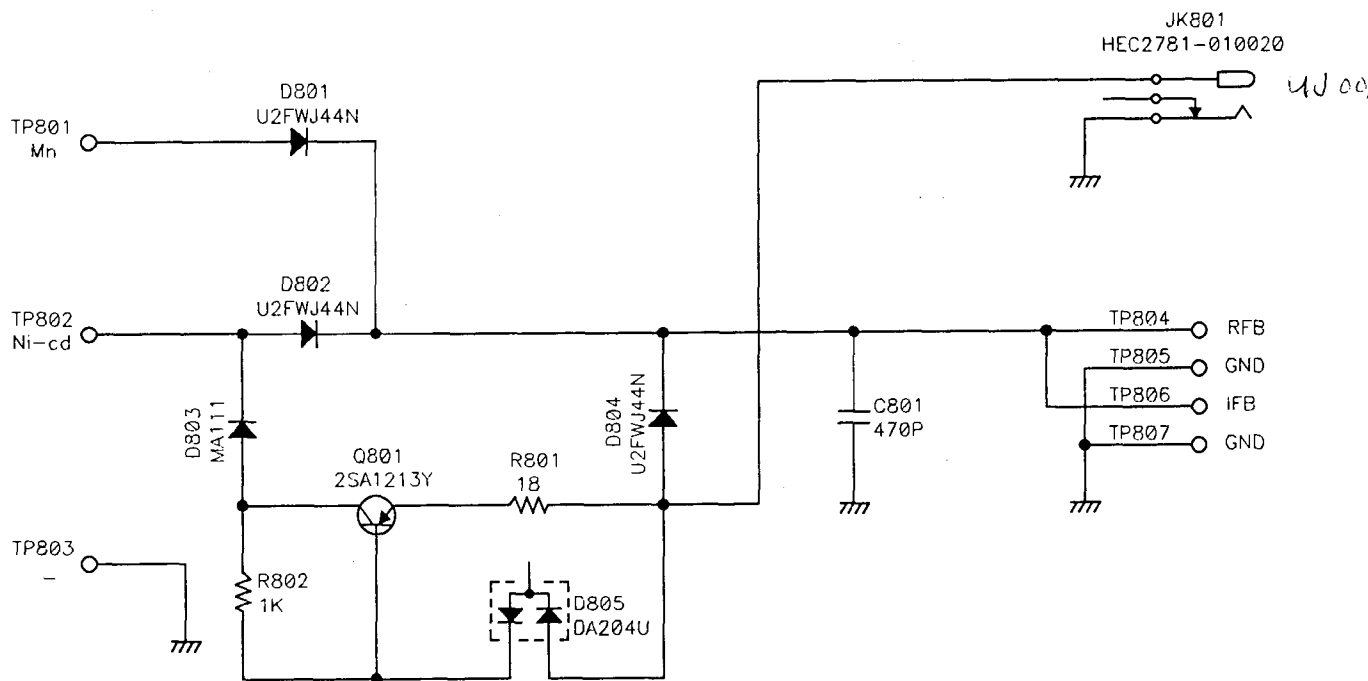
4) UVCO UNIT



5) VVCO UNIT



6) CHARGE UNIT



7) PTT UNIT

